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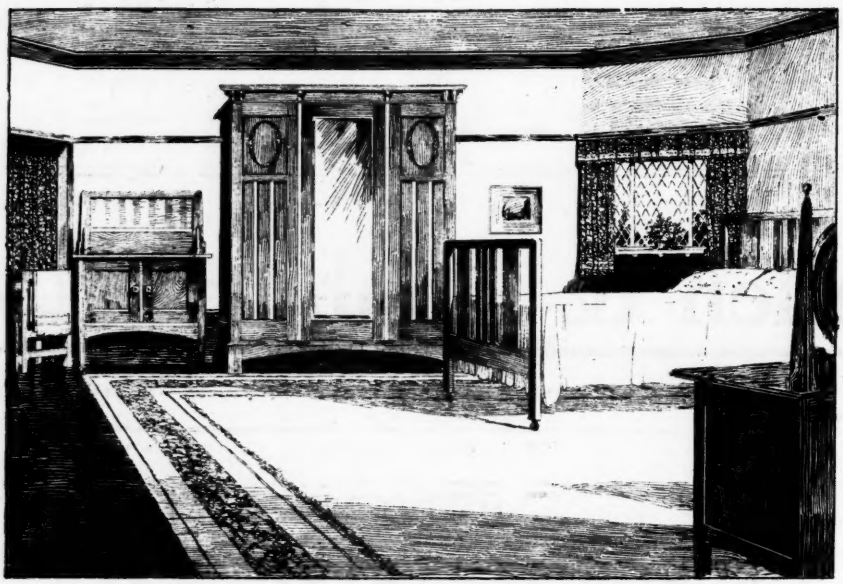

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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—6TH YEAR. SYDNEY: SATURDAY, AUGUST 16, 1919. No. 7.

THE NATIONALIZATION OF MEDICINE.[1]

By J. H. L. Cumpston, M.D., D.P.H.,
Director of Quarantine.

The expression which forms the title of this address is not of my selection, but was conveyed to me by your Secretary as being the subject on which I was invited to speak.

The expression indicates or embraces a concept which, whatever it is, has clearly made an appeal to a large number of people. The fact of your having suggested it as the subject for to-day is sufficient indication that the nationalization of medicine is a public question important enough to deserve at least a passing notice. There are signs, becoming increasingly numerous, that this matter of nationalization of medicine is receiving so much attention that a definite verdict will very soon have to be given as to its place in the machinery of government.

What is the nationalization of medicine? Without external evidence, the expression is capable of various interpretations. It may mean a complete State monopoly of drugs and medicaments of all kinds. It is unnecessary to discuss this suggestion.

It may mean the national control of the practice of medicine in all its phases, it being understood that the practice of medicine in this connexion means the actual treatment of the patient by the doctor. This interpretation would involve complete State control of all relations between the patient and his State-paid doctor, the provision of medical treatment for the whole population being a definite function of government.

A third interpretation would be that of the development to the fullest logical extent of those phases of the relationship between doctor and patient which are capable of development to the benefit of the community, as distinguished from, though perhaps concurrent with, the interests of the individual; that is to say, the adaption to national service of these phases of medical science and art which are capable of such adaption.

This third interpretation may be simply illustrated. A doctor attending a patient discovers that he has been infected with anthrax by a shaving brush. His report of this fact to the proper authorities prevents similar damage by other shaving brushes from the same consignment. Or, on a larger scale, the State, assuming a State sufficiently enlightened, may undertake an extensive investigation into the effects of industrial employment of certain kinds upon the health of adolescent girls and may require all medical practitioners to record certain prescribed details for all patients within specified limits of age and occupation. An example of such application to community needs of private practice conditions is actually in operation. The legislation controlling venereal diseases imposes upon the doctor an active responsibility for ensuring that the patient continues under treatment until cured.

Which of these alternatives is advocated by the supporters of this nationalization?

If an answer can be found, it must be sought in the public statements of the advocates.

The principal advocates have been:

Benjamin Moore in "The Dawn of the Health Age."

Havelock Ellis in "The Nationalization of Health."

Bernard Shaw in the introduction to "The Doctor's Dilemma."

Beatrice and Sidney Webb in "The State and the Doctor."

Certain sections of the daily press in Australia, most notably *The Age*, have taken up the idea very warmly.

The term now under discussion, the nationalization of medicine, is not used by any of the above writers and, though extensively used in the Australian daily press, is not, so far as I know, used elsewhere.

Some appreciation of the motives underlying the demand for nationalization will assist materially to a comprehension of the exact nature of the demand.

The motives are mainly twofold; firstly, dissatisfaction with certain phases of individual medical treatment and, secondly, the conviction that much more might be done in the prevention of disease.

The details of these two aspects are best stated by Ellis. Shaw covers the same ground in a holiday excursion mood of irresponsible satire, while the Webbs have accurately marshalled a lifeless army of facts, without indicating very clearly the significance of any.

The defects of medical practice, as it is to-day, are stated to be:—

Firstly, that considerations of financial interest must obtrude forcibly into all relationships between the doctor and his patient. These financial interests of the doctor are served by the sickness of the patient and are detrimentally affected by his continued health. The extreme of this view is expressed by Shaw in violent language:—

> Again I hear the voices indignantly muttering old phrases about the high character of a noble profession, and the honour and conscience of its members. I must reply that the medical profession has not a high character; it has an infamous character. I do not know a single thoughtful and well-informed person who does not feel that the tragedy of illness at present is that it delivers you helplessly into the hands of a profession which you deeply mistrust. Nobody supposes that doctors are less virtuous than judges; but a judge whose salary and reputation depended on whether the verdict was for plaintiff or defendant, prosecutor or prisoner, would be as little trusted as a general in the pay of the enemy. To offer me a doctor as my judge and then weigh his decision with a bribe of a large sum of money and a virtual guarantee that if he makes a mistake, it can never be proved against him, is to go wildly beyond the ascertained strain which human nature will bear.

This heated outburst would not have been quoted were it not that Ellis in quite restrained language draws the same picture.

[1] Being an address delivered before the Public Questions Society, Melbourne University, on August 4, 1919.

Secondly, that no medical man can have even a working knowledge of all branches of medicine. This fact, now recognized clearly by all patients, combined with the specialist's enthusiastic claim that all human disorders are in some way referable to his particular specialty, has developed a mistrust of the general practitioner, which threatens to take shape as a demand for some change.

Ellis expresses this phase thus:—.

> The inevitable development of specialism in private practice and its evils have been frequently pointed out. The growing complexity of medical science renders specialism more and more necessary, at all events within certain limits, while it renders the specialist more and more incapable of treating the body as a whole. Thus the patient who is fairly dealt with should be, and not infrequently is, made to visit—at the expense, naturally, of much time, trouble and money—a succession of specialists, in order to obtain an authoritative opinion upon his condition.

Thirdly, the anomalous position of public hospitals. There is material in this subject alone for extensive discussion, but anomalies may be illustrated by one example. The Government in one State insists that every patient shall contribute to hospital funds according to his means, but the medical staff receive no payment. The Government in another State insists that every person must be admitted to the public hospital without charge whatever his means and the medical profession therefore refuses to serve the public hospitals.

The hospital question is altogether too large to discuss in this paper and no more can be said than that the advocates of nationalization visualize a stage of development at which all public hospitals will be entirely State-controlled and the hospital will gradually evolve into something in the nature of a health institute concerned at least as much with keeping people well, as with curing those who are sick.

What remedies are suggested for the stated defects of the present system of private practice? The remedy suggested by all those who have written on the subject is the same; that medical men should be altogether paid servants of the State.

Shaw expresses it:—

> Until the medical profession becomes a body of men trained and paid by the country to keep the country in health, it will remain what it is at present, a conspiracy to exploit popular credulity and human suffering.

Ellis summarizes the position:—

> Along, then, at least these three lines—the growing discontent with the present lack of method in the organization of public medicine, the tendency of a sounder system to realize itself already and the perception of the increasingly untenable position of the private practitioner—it is possible to discern the hope of better things. Under any rationally organized system every medical man would be a force on the side of public health; it would be his primary duty not to seek to pull out with spasmodic effort the mangled wretches who float down to the sea in the great torrent of disease and misery, but to help to maintain firmly the dykes which protect us against the sources of disease and misery. There will doubtless remain a limited scope for the activities of the private practitioner; there is at least the great field of "minor ailments," but he will have at his back the hospital, largely reformed in a health institute, with which his duties will keep him constantly in touch, and with which his interests will be bound up. The exact methods by which this reform will be effected constitute a problem which the future must settle, but its gradual realization has in the course of events become not merely desirable but inevitable.

These quotations define the present situation probably as completely as it is at present possible to do. A dissatisfaction with the conditions of private practice, vague proposals, without practical details, to make every doctor a civil servant and all treatment a function of the State and, running through all of these suggestions, the dominant idea that it is more profitable to keep people in health than to treat them when ill.

> It is enough to say here that a system which, like that of private practice, is based on the casual tinkering of disease and which regards as an impertinence the far more vital question of prevention, stands a very poor chance of being accepted as the system of the future. —ELLIS.

It is significant that none of the authors makes any attempt to discuss in a practical way the actual accomplishment of the proposal to make the treatment of all patients a State-controlled department administered by a large body of medical public servants.

Briefly it may be said that deliberate and prolonged consideration of the proposal from the aspect of administrative practicability leads one definitely to the conclusion that, whatever may in the future result from any social evolution, the proposal to nationalize medical treatment is an impracticable and doubtfully advantageous suggestion. It is probable that it would mean for the medical profession shorter hours of work and a longer expectation of life, but no striking advantage to the community suggests itself.

The other aspect, that of preventing disease, is one that receives universal support. All the writers on this question of nationalization have in the end laid hold of this solid and tangible idea as the only really practicable working suggestion concerning which they can expand themselves with some definiteness.

Concerning this proposal, moreover, there is no difference of opinion. The medical profession, far from opposing it, have welcomed such a suggestion whenever it has been made. The criticism of the medical profession has always been that legislation and State administration have failed to keep pace with the progress of knowledge in preventive medicine.

Can a practicable scheme be devised which would enable the private medical attendant to satisfy this demand that medical science should be applied more directly and by every doctor, for the prevention of disease, or can any hope be reasonably entertained that achievement in the matter of keeping people well will ever approach the theoretical possibility? No sound reason why this should not be so has ever been presented and the actual accomplishments encourage a warm hope of triumphant success. A beginning can at least be made, a beginning which would involve the nationalization of part of the knowledge and time of every practising doctor.

Would this involve the extinction of private practice? It could not. No system of prevention, however complete, could entirely prevent disease and accident. Treatment must therefore continue and, human nature being what it is, the right of selection of medical attendant and acceptable individual relationship must continue.

Private treatment of patient by doctor would naturally diminish in proportion as the efforts of the doctor to prevent disease were successful, but as the State would necessarily pay adequate remuneration to the doctor for his preventive efforts, there would be no loss to the doctor to affect his natural satisfaction at positive achievement.

The recognition by the medical profession of a definite obligation to the State to carry out prescribed measures of prevention would remove the reproach that the doctor does not ignore his financial interest in the illness of his patient.

How might this system be worked in practice?

Frequent reference has been made to the so-called Chinese system, under which the doctor is paid while his clients remain well, all payment being suspended if the clients become ill. Apart from the fact that such a system does not obtain in China, the notion is so fantastic that even Shaw does not mention it.

As the object of the scheme is declared to be keeping people well and preventing illness, it is obvious that efforts can be successfully applied only in the case of those illnesses of which the causes are known, or can, by investigation, be discovered.

The actual state of present knowledge offers a most fertile, but almost uncultivated, field for preventive effort. In this field, the labour of the practising doctor has not yet been utilized.

The present system of nominal control of transmissible diseases of bacterial origin in Australia has been a demonstrated failure. Something has been achieved in the reduction of these diseases by a control of environmental factors, *i.e.*, by sanitation. But there has been no intelligent effort to control the personal infection factor in these diseases. Bacteriology has shown the importance of the infective carrier in the starting of fresh epidemics of typhoid and diphtheria, yet few doctors in private practice ascertain whether patients recovering from these diseases remain infective after return to health.

The importance of detection and control of incipient tuberculosis amongst contacts in a house in which there is an "open" case of declared infectivity has long been recognized, yet few doctors examine the contacts with this view and, it must be said, there is no provision for the control of these cases, if detected.

Few doctors, under existing conditions, would think of informing the Health Departments of facts which may be important, as, for example, an unusual prevalence of antrum or sinus infections during an epidemic of meningitis; the futility of attempting to obtain information from the medical profession on questions of great interest by issuing circulars of enquiry is recognized by all who have attempted it.

Prevention, in respect of any disease, must be based upon the intelligent application of actual knowledge and the acquisition of further knowledge. The most profitable method of approaching these two objectives is through the medical man who comes into most intimate and constant contact with the actual disease focus, *i.e.*, the personal medical attendant.

In the pursuit of knowledge into any question of national concern—the cause of cancer, the underlying causes of ante-natal weakness, the incipient manifestations of industrial disease or occupational strain, the means of prevention of degenerative arterial changes—the doctor in attendance upon the patient can supply information of the greatest value.

In the prevention of those diseases, of which the means of prevention are known, no person has such opportunities for prescribing and supervising these means of prevention as the doctor in daily attendance.

For the nationalization of medicine for preventive purposes, the position of the private practitioner is strategically almost perfect. He can, as a matter of national service, be required to discharge those functions of prevention and investigation which are already known to be practicable and he can do this without affecting in any direction his relationships with the patient.

In so doing he will actually be doing all that has been suggested in a practical way by those who demand the nationalization of medicine. The more nebulous demands cannot be discussed until their shape has been definitely indicated.

The obligations of the State are apt to be overlooked in these discussions of nationalization. If the State imposes obligations upon a certain section of the community, it must assess the value of the required service to the community, it must define clearly the nature of the obligations imposed and it must provide the machinery necessary for the discharge of those obligations.

In practice these postulates would involve the recognition by the State of public health as a department of State activity of much greater importance than has hitherto been admitted, the enlightened and intelligent direction of what is an exceedingly difficult field of administration and the provision of laboratories, consultants in public health and other necessary adjuncts.

Probably the two most important changes necessary would be that the present disproportion between national expenditure on the protection of property and that on the preservation of public health would need to be reversed and more than reversed; and the medical curriculum would need to be fundamentally revised, so that every branch of study would be directed throughout to prevention of disease.

It is beyond question that there is a growing feeling of public dissatisfaction with present conditions of private medical practice and a growing and insistent demand that disease and ill health must be prevented. There is widespread recognition of the fact that tinkering with drains and the recurrent futility of resultless meetings of various statutory boards is not preventive medicine and is not likely to improve the general level of the health of the people. Until Governments recognize that there is an enormous uncultivated field for effort in preventing illness of all kinds, not only infectious diseases, by the study of the individual as well as of the environment, that the principal tillers of this field must be the doctors in general practice, that the harvest will be small unless the tillers are generously encouraged and intelligently directed by wise Government supervision, until doctors are educated to the point at which they feel involuntary shame at the appearance of a case of preventible disease, until these things begin to happen,

preventive medicine in Australia will remain what it is at present, the only branch of medical science in which practical application of advancing knowledge is not being made.

The science and art of medicine is not restricted to the diagnosis and cure of disease in its gross forms; it includes also a knowledge of how diseases comes to be, of its earliest beginnings and of its prevention. It is, in fact, the science and art of health, of how man can learn to live a healthy life at the top of his capacity of body and mind, avoiding or removing external or internal conditions unfavourable to such a standard, able to work to the highest power, able to rest to the fullest, growing in strength and in the joy of living. The new preventive medicine must not be understood to consist only of sanitation, of the isolation from the community of cases of infectious disease, of disinfection and outward cleanliness and of the registration of births, deaths and other vital statistics. These are, of course, matters of the first importance, but much more is required. The individual man as an animal—the body in all its parts, the senses and their functioning, the nutrition of the body, its growth and development, its capacity for work, its powers of resistance—must receive practical consideration. The fight against disease is something more than the closing of its channels of communication, something more than an avoidance of the ways and means of its infection and invasion, certainly much more than a registration of its effects, a record of the morbidity and mortality which follow in its train. The first line of defence is a healthy, well-nourished and resistant human body and to this end, the whole man must be dealt with.

Nor is the individual, taken at any one moment, the whole of the issue. There is his life history, his heredity, his family, his domestic life, his personal habits and customs, his home as well as his workshop. In short, preventive medicine, to be effective, must deal with the man, the whole man, as an individual as well as a member of the community.

Clearly, this new world of preventive medicine cannot be developed unless every medical practitioner individually recognizes and actively discharges his duty, or is obliged to do so.

There is to-day a coherent and emphatic demand by the community for this very application of medical art; there is here a form of nationalization of medicine which is practicable, which is urgently necessary, which the medical profession itself requests and which is only delayed by the inertia of governments.

NOTES ON SIXTY CASES OF PNEUMONIC INFLUENZA TREATED WITH THE MACKINNON-RAY VACCINE.

By **Arthur Grieves, L.R.C.P., London, M.R.C.S., England,**

Honorary Physician to the Newcastle Hospital, and Visiting Physician to the Waratah Influenza Hospital.

I have now treated about 300 cases of pneumonic influenza during this pandemic, with 15 deaths—a death-rate of 5%. Sixty of the patients have had the MacKinnon-Ray vaccine; seven have died—a death-rate of 12%. Moreover, two of the patients under treatment are still dangerously ill.

At first sight this result does not appear favourable to the vaccine, but it must be remembered that in the early days of the Newcastle outbreak we admitted to Waratah a considerable number of quite mild cases. Many of these patients would probably have recovered without any treatment at all. The inclusion of such cases reduces the death-rate considerably. The vaccine has not been given to any such patients. On the other hand, all the worst cases go to Waratah, and to such cases I give the vaccine.

At first, having only one tube of the vaccine, I gave it in very severe cases alone, usually to those with a temperature of 40° C. or over; or to patients who were distinctly blue. Results were noted and as more vaccine was received, the number of cases treated with it was gradually increased.

For the last three weeks or more the vaccine has been given to every patient who showed any signs at all of a severe attack. The one exception was that of a patient who was suffering from uræmia, from which he subsequently died.

The following facts have been observed during the time that the vaccine has been administered.

(1) Temperature.

(*a*) The administration of the vaccine is usually followed in a few hours by a rise of temperature, which occupies, as a rule, from six to twelve hours. The temperature then begins to fall. During the next 24 or 36 hours a fall of about one degree (centigrade) is generally observed. In a case of moderate severity this fall continues until a normal temperature is reached, in from two to three days.

(*b*) If the vaccine is given quite early, the reaction rise is of much shorter duration and the fall is quicker, so that a fall of one degree or more in 24 hours may be seen.

(*c*) If, on the other hand, the vaccine is given late in the course of the disease, or if the attack is a virulent one, or if a large area of lung tissue is involved, the reaction temperature may last longer and the fall may then be delayed. In such cases the temperature will often rise again. That is to say, the vaccine does not control the temperature to the same extent if it is given late, or if the case is a very severe one.

(*d*) If, after falling, the temperature rises again and remains up at or near 37.8° C. or more I give a second dose. I have not usually thought it necessary to give a third dose, but have done so in two cases. One of the patients recovered; the other died. Notes of both cases are given below. In most cases, one dose is sufficient.

(2) Respiratory System.

It is well known that the physical signs in pneumonic influenza do not form a good guide to the gravity of the case. Breathing, though often laboured, is not quickened so much as in ordinary pneumonia. Respiration, consequently, is not greatly affected at first by the administration of the vaccine. The cases of lobar pneumonia reacted more rapidly, as a rule, than those of broncho-pneumonia, and they cleared up more completely. The reverse would have been expected. The broncho-pneumonias were apt to drag on for a long time. (See Case IV.) Apparently there was a more profound toxæmia in these cases.

(3) Circulatory System.

The effect of the vaccine on the pulse is well defined. The typical full, soft, compressible pulse of pneumonic influenza becomes smaller, harder and definitely stronger, often within 18 or 24 hours. In proportion to the temperature, the pulse does not at first fall in rate; the rate, on the contrary, often rises; but the improvement in quality is marked. Here, as with temperature, much depends on the severity of the attack and more on the period, early or late, at which the vaccine is given.

(4) Alimentary System.

The tongue cleans, the dirty brown strip down the centre clears off and the dry tongue becomes moist. The appetite improves and the signs of gastro-intestinal disturbance, such as vomiting or diarrhœa, are lessened.

(5) Nervous System.

Delirium is less, there is less mental confusion and the patient sleeps better.

I wish to emphasize the following points:—

(*i.*) The earlier the administration of the vaccine, the better and more rapid the result. This is in accord with one's experience of most vaccines; it is certainly well marked with this one. (See Case II.)

(*ii.*) General treatment has not been referred to in these notes, but it is, of course, of vital importance.

(*iii.*) The administration of the vaccine not only lessens the severity of the attack, but, in addition, greatly shortens its duration. Convalescence also is shortened, largely, as it appears to me, because the effect of the disease on the heart muscle is less severe.

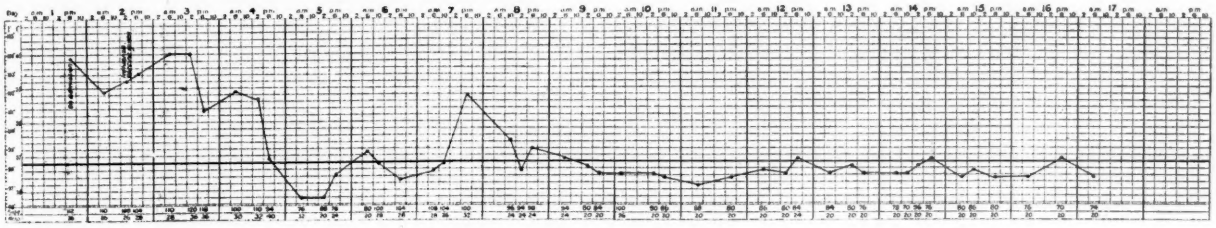

Chart I.—T.M., age 31 years (Case IV.).

(*iv.*) With regard to the seven patients who died, most of them either came under treatment late, or, at any rate, received the vaccine late. No patient, so far, has died, who has received the vaccine at or near the commencement of his illness. Taking into consideration the whole series of cases, I should be inclined to say that if, without the vaccine, the patient has 36 hours to live, the giving of the vaccine may save him.

(*v.*) I have followed Dr. MacKinnon's directions as to dosage. The dose to an adult has always been 0.72 c.cm.; that to children, in proportion to their age. I have given it to a child of six and to a woman of seventy-seven.

(*vi.*) I am inclined to think that, in a virulent case, the dose might perhaps be increased with advantage, or repeated, say, in 24 hours, without waiting for a definite reaction. My experience is too small to permit me to say with certainty; perhaps we might save a few more patients in this way.

In conclusion, I am of the opinion that we have in the MacKinnon-Ray vaccine a very valuable addition to our armamentarium, one which, if given early, will materially lower the death-rate in this disease. I feel most grateful to Dr. R. R. S. MacKinnon for his kindness in enabling me to give my patients the benefit of this treatment.

The following very imperfect notes of cases are given in illustration. Pneumonic influenza being a toxæmia, I have dwelt but little upon physical signs. Charts of two cases are also given; they show the effects of the vaccine in the various classes of cases met with:—

Case I.—Minnie S., age 17. On May 14, 1919, she had headache, pain in the back and legs and cough. Later there was vomiting. The eyes were sore, afterwards watering. There was weakness, a dry mouth and rigors.

On admission her temperature was 38.3° C. and her pulse-rate 112. At 4 p.m. her temperature was 38° C. and her pulse-rate 120. There were signs of left lobar pneumonia.

May 15.—4 p.m.: Temperature, 39.8° C.; pulse-rate, 112. 8 p.m.: Temperature, 40.2° C.; pulse-rate, 104. She had a rigor.

May 16.—Temperature, 39.6° C.. Her colour was very bad. Pulse, 110, she was weak and very ill.

May 17.—Colour worse, pulse thready, 116; condition critical. Temperature: 4 a.m., 39.4° C.; noon, 37.8° C.. Vaccine was given. 8 p.m.: Temperature, 39.6° C.; pulse-rate, 104.

May 18.—Temperature, 40.3° C.; pulse-rate, 124. The patient was very feeble. 4 p.m., Temperature, 37.2° C.; pulse-rate, 120. She was stronger.

May 19.—Temperature, 39.4° C.; colour a little better; pulse-rate, 120. She was stronger.

May 20.—Temperature, 39.6° C.; pulse-rate, 112; stronger. 4 p.m.: Temperature, 36.7° C.; 8 p.m.: 38° C..

May 21.—Temperature, 39.1° C.; pulse-rate, 100; much stronger, colour greatly improved; the patient was taking nourishment well.

May 22.—Temperature, 37.8° C..

May 23.—Temperature normal; convalescence rapid.

This patient would have died but for the vaccine. Although she came under treatment quite early, a profound toxæmia was shown, and she was going rapidly down-hill.

Thirty-six hours after the vaccine was given, a marked improvement was seen. The point should be emphasized, that though a fair amount of lung tissue was involved, the case differed greatly from an ordinary pneumonia. It seemed that the toxæmia chiefly affected the heart muscle, and with a more extended experience of the vaccine, I should now give it in such a case as soon as the diagnosis has been made.

Case II.—H.R., age 36. Was first seen on April 28, 1919. There were râles at both bases. His colour was pale. His temperature was 38.1° C., his pulse-rate 98 and his respirations 22.

April 29.—Temperature, 38.6° C.; pulse-rate, 100.

April 30.—Temperature, 39.2° C.; pulse-rate, 104. The patient was not so well; breathing more difficult; respirations, 26.

May 1.—Temperature rising, 39.8° C.; pulse-rate, 110; feeble, colour not good.

May 2.—Temperature, 40.5° C.; double broncho-pneumonia, breathing difficult, colour bad. Vaccine was given.

May 3.—Temperature, 40° C.; pulse-rate, 112; feeble.
May 4.—Temperature, 38.9° C..
May 5.—Temperature, 40.5° C..
May 6.—Second dose of vaccine given.

May 7.—Temperature, 37.8°C.; general condition improved. Pulse-rate, 130, but less feeble.

May 8.—Condition not so good. Temperature, 40.5° C..

The third dose of vaccine was given. The temperature was not affected; his colour was very bad and there was severe dyspnœa. The patient died on May 9, 1919.

This case is one of my failures. I saw the patient early, but had not received the vaccine at that time, and he did not have a dose until the fifth day of his illness. It was a virulent case. A notable point was that the temperature did not react to drugs at all.

mained at 40° C. for eight hours, showing a strong reaction. The temperature then began to descend and in 28 hours reached normal and was subnormal (35.7° C.) on the following day. The pulse showed gradual improvement, but remained very feeble for some time. Improvement was rapid and marked, but the case gave me a good deal of anxiety for several days. The patient was discharged on May 27. I saw this man subsequently on May 31, 1919. He was still pale and ill, and the cardiac sounds were blurred, especially the second sound.

The lessening of general toxæmia by means of the vaccine enabled this patient to pull through (see chart).

Case V.—J.M., age 37, was admitted on May 6, 1919, with double broncho-pneumonia. His was regarded as a severe case. The breathing was very distressed, the respirations 25, the pulse-rate 112, full, soft, easily compressed and his

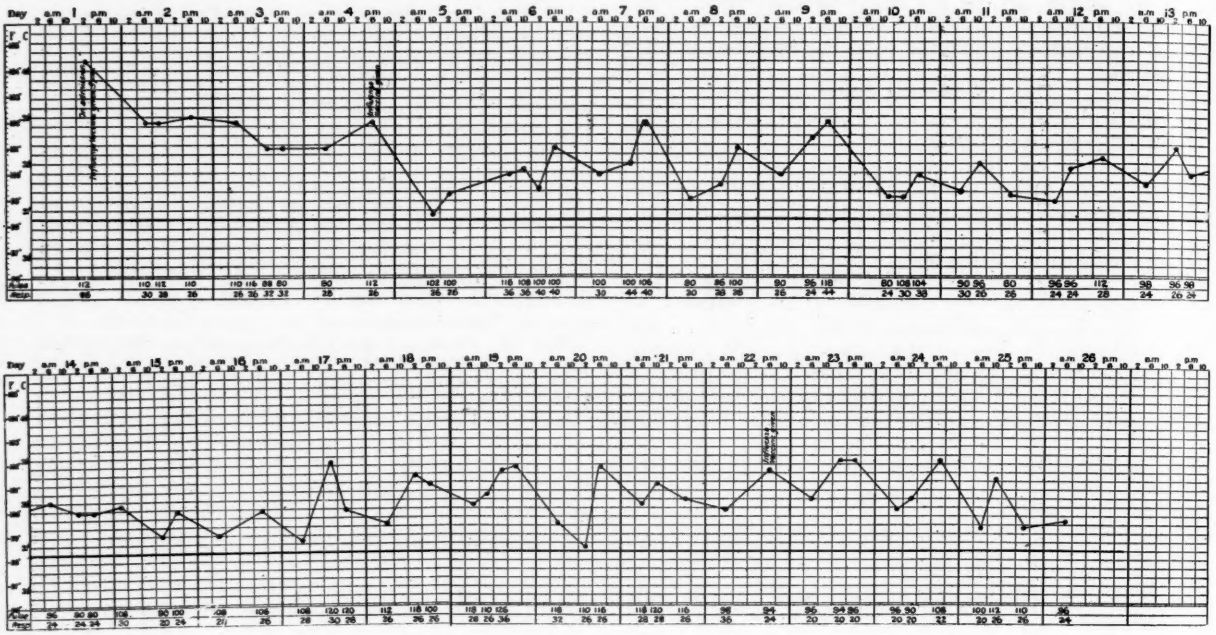

Chart II.—J.M. (Case V.).

Case III.—George B., age 34, was taken ill on April 24 and was seen on the 25th. He presented the typical clinical picture of pneumonic influenza. His face was pale, lips and ears were a little blue, the tongue was furred in the centre, the conjunctivæ reddened; the skin acted freely. His temperature was 39.6° C., his pulse-rate was 116, very full and soft; the respirations 24. A few fine crepitations at the left base, otherwise nothing abnormal was discovered in the chest. A dose of vaccine was given.

April 26.—Temperature, 38° C.; pulse-rate, 96; a little stronger.

April 27.—Temperature, 38° C.; pulse-rate, 92.

April 28.—Temperature 37.6°C.; pulse-rate, 76; much stronger.

April 29.—Temperature normal, pulse-rate, 72. Convalescence was rapid.

This man showed every sign of a severe infection, but four days after the injection, he had practically recovered from the attack. The case illustrates the importance of an early administration of the vaccine.

Case IV.—T.M., age 31, was admitted on May 11, 1919. His temperature was 39.9° C., his pulse-rate 112 and his respirations 26. He was seen on May 12, 1919, when the temperature was 39.4° C. and the pulse 110, very feeble. The respirations were 26. Broncho-pneumonia was diagnosed. His condition was considered to be grave. Vaccine was given.

On May 13 and 14 the temperature rose to 40° C. and re-

colour bad. Vaccine was given shortly after admission.

On May 7, 1919, the temperature was 38.9° C. and the pulse 112, still full and soft; the respirations were 30.

On May 8, 1919, the pulse was stronger and not so full. The temperature was 38.9° C. and later 38.3° C..

On May 9, 1919, the temperature 38.9° C., the pulse-rate 112 and the respirations 26. His condition was not so good. The pulse was weaker. A second dose of vaccine was given.

There was gradual improvement until May 22, when a relapse took place. The temperature swung to and fro until May 27, when a third dose of vaccine was given. The temperature then fell to 37.2° C.. This was one of the worst cases that I have had. The patient was full blooded and looked like an alcoholic—a very bad subject for a pneumonia of any kind. He is not yet well, but the case is quoted as illustrating the necessity in some cases for a repetition of the dose. I think that perhaps the third dose might have been given sooner with advantage. (See chart.)

Case VI.—H.F., age 20, was admitted on May 26, 1919. The temperature was 39.4° C., the pulse-rate 110, full and soft, and the respiratory-rate 26. His colour was fair; he was a little flushed, but not markedly blue. The case was reported as one of lobar pneumonia.

May 27.—Temperature, 40° C.. Vaccine was given.

May 28.—Temperature, 40.5° C.; pulse-rate, 104; respirations, 32.

May 29.—Temperature, 39.4° C..
May 30.—Temperature, 36.2° C.. It remained normal subsequently. Convalescence was rapid.

The right lung was extensively involved, but the patient was not very blue. After the vaccine had been given there was a marked reaction, the temperature rising to 40.5° C. and remaining at that height for some hours. The temperature then came down and stayed down. A satisfactory case.

Since the above notes were written, up to June 17, another 200 cases were treated at Waratah. I have also treated a considerable number in my own practice. In private practice I take the vaccine with me and give it as soon as the diagnosis has been made. The last 200 cases at Waratah gave a death-rate of about 7%; the cases treated in private a death-rate of a little under 3%.

Early administration is the essence of the vaccine treatment. In cases which are seen late, the treatment by vaccine adds considerably to the patient's chance of recovery. That is all that one can say. In such cases 1 c.cm. is now given. Further experience confirms my opinion of the value of the vaccine. The type of case in this district has increased in severity during the last few weeks and the death-rate has risen.

It is greatly to be regretted that many patients come to Waratah so late in the course of the disease that neither vaccine nor any other treatment offers much prospect of recovery.

Reports of Cases.

TENDON TRANSPLANTATION FOR DORSAL INTEROSSEOUS PARALYSIS.[1]

By **Lennox G. Teece, M.B., Ch.M.,**
Orthopædic Surgeon, No. 4 Australian General Hospital, Randwick.

There is no more fascinating branch of orthopædic surgery than tendon transplantation, and its usefulness in cases of irreparable injury to peripheral nerves has been amply proved in the military surgery of the present day. Tendon transplantation, originally introduced by Nicoladoni for the relief of infantile paralysis, has had a chequered existence, and fell for some time into considerable disfavour, solely because too much was at times expected of the transplanted tendons and they were asked to perform impossible tasks. Nicoladoni's first case was transplantation of the peronei into the paralysed *tendo Achilles*, and, as might well be expected, the case was a complete failure. From that failure was learnt the first rule governing success in these cases, namely, that the transplanted muscle must be approximately as powerful as the paralysed one whose function it is proposed to assume, or should a sufficiently powerful muscle be unavailable, its work must be lessened by increasing the stability of the part by arthrodesis or by the fixation of other tendons. Our second rule is readily deduced from the first; it is that tendon transplantation is of no avail in the presence of very widespread paralysis. Thirdly, the transplanted tendon must be so aligned that it will exercise a direct pull from its origin to its new insertion; that it is to say, it must not be sharply angled. Fourthly, it must be securely anchored to its new insertion, either into periosteum or into the paralysed tendon. Fifthly, it must be sutured under sufficient tension; in fact, I always suture it under very considerable tension. Certainly all the slack must be taken up. Sixthly, from the moment the first stitch fixing the transplanted tendon is inserted till good voluntary power is obtained many weeks later, not for a single moment must a strain be allowed to fall on it.

Considering these fundamental principles, it becomes obvious that the sharply localized, irreparable injuries of individual peripheral nerves of the upper extremity offer a most favourable field for tendon transplantation; the only hindrance that is likely to mar the success of the operation is the presence of an excessive amount of scar tissue.

The case which I show to-night is that of a man who, in April, 1918, sustained a wound in the region of the neck of the radius, causing complete destruction of the dorsal interosseous nerve at this point. Voluntary power remained in the *brachio-radialis* and in the two radial extensors. The muscles supplied by the dorsal interosseous nerve were all paralysed and showed the typical reaction of degeneration to electrical tests. I have abandoned making any attempt to suture this nerve, as it splits up into a leash of such fine branches that accurate suture is impossible, and, in addition, tendon transplantation for this lesion can be made to give such a perfect result that its adoption is clearly indicated.

The disability in this particular man was inability to extend the fingers at the metacarpo-phalangeal joints and to abduct or extend the thumb; in other words, he could not open out his grip in order to grasp objects.

Prior to operation complete mobility of all joints was attained by massage and passive movements. It is no use transplanting tendons in the presence of obstinate joint rigidity. Another pre-operative step taken was one which I have nowhere seen referred to in the literature, but to which I attach the utmost importance. It consisted of muscle education in the direction of the dissociation of the action of the individual members of the synergic group of flexors. As I intended to transform the *flexor carpi radialis* into an extender of the fingers, it was essential that the patient should be able to contract this muscle without at the same time contracting the flexors of the fingers. This education was carried out daily for a fortnight prior to operation.

The technique of the operation was as follows: A 2.5 cm. incision was made at the level of the wrist joint over the *flexor carpi radialis* and its tendon as well as that of the *palmaris longus* were divided as low down as possible. A 5 cm. incision was made at the junction of the middle and upper thirds of the forearm, over the bellies of these muscles, and they were then pulled right up out of the incision and moist gauze temporarily wrapped around them. Next a U-shaped incision, with its convexity downwards, was made over the dorsum of the wrist joint and the large flap dissected up. The subcutaneous tissues were tunnelled through with a blunt dissector from the back of the wrist to the upper of the two volar incisions and the *flexor carpi radialis* and *palmaris longus* tendons pulled down through this tunnel and made to appear on the dorsum of the wrist. The incisions on the front of the forearm were next sutured to minimize the amount of handling and movement of the part left to be done after the transplanted tendons had been given their new attachment.

The tendons of the *extensor brevis* and *abductor longus pollicis* were divided and inserted into a slit made longitudinally in the tendons of both the radial extensors of the wrist and were there sutured under considerable tension with chromic catgut. From this moment till the final application of the splint one assistant devoted his whole attention to holding the wrist and fingers fully extended and the thumb abducted and extended. The surface of the tendons of the common extensor of the fingers was roughened by scratching with the knife and the tendon of the *flexor carpi radialis* was split into two layers; one layer passed dorsal and the other volar to the common extensor tendons and there sutured firmly. The *palmaris longus* was similarly inserted into the *extensor longus pollicis*. The *flexor carpi ulnaris* was reached by strongly retracting the ulnar edge of the incision, divided just above the pisiform bone, brought round and inserted into the *extensor carpi ulnaris*. In subsequent cases I have approached the *flexor carpi ulnaris* by a separate incision on the volar aspect, as the method adopted in this case is apt to result in too much angling of the tendon.

The wound was closed and a long "cock-up" splint applied, to insure extension of wrist, fingers and thumb. Fourteen days later gentle faradic stimulation of the transplanted muscles and of the radial extensors was commenced by the

[1] Read at a Clinical Meeting of the New South Wales Branch of the British Medical Association on July 11, 1919.

method of graduated contraction with the Smart-Bristow faradic coil. At the same time education of the transplanted muscles was carried out. Complete splinting was maintained for four weeks after the operation; then the long "cock-up" splint was removed, allowing movement of the metacarpophalangeal joints of the fingers, but for a further three weeks wrist extension and thumb abduction and extension were maintained by means of a short "cock-up" splint with a special thumb piece. Now, eleven weeks after the operation, the result is perfect; extension of the fingers and abduction and extension of the thumb are complete, powerful and under perfect voluntary control. The patient gives it as his opinion that the hand is as useful as it was before he was wounded and he has already been using it to work on his farm.

One interesting physiological point is evidenced by this case. We know that the contraction of any muscle is accompanied by the physiological relaxation of its opponent. Therefore, when he contracts the *flexor carpi radialis* and thereby extends his fingers, his wrist extensors automatically relax and wrist extension lessens, though only slightly. This relaxation being automatic and not a conscious act, I am at a loss to devise a method of muscle education that will overcome it and I will be grateful for any suggestions on this point. It does not in any way interfere with the functional usefulness of the hand in this case, but in other types of tendon transplantation it might do so.

Success in these tendon transplantations is dependent very largely on unfailing care and perseverance in the after-treatment. This particular patient I saw thrice weekly for eight weeks after the operation. Had I not done so, I should very likely have had to record a failure. No small part of the credit for the gratifying result in this case is due to Miss Campling, of the massage staff of the No. 4 Australian General Hospital, who, under my directions, carried out the electrical treatment with the highest degree of skill and attention to detail.

Mayer and Biesalki, in their work "Physiological Tendon Transplantation," describe a structure, the mesotenon, which they claim fulfils for the tendon the same function as the mesentery does for the intestine. This mesotenon is said to attach the tendon to its sheath and to carry to it its vascular supply. They state that wide separation of the tendon from the sheath must accordingly cause fatal interference with its nutrition and they would limit tendon transplantation to those few cases where the tendon can be transferred to the sheath of an adjacent tendon. In the face of such a case as the one I have shown, these assertions are difficult of acceptance.

The great advances in the technique of tendon transplantation that have taken place in recent years lead me to hope that it will be more widely adopted in the future in the treatment of spastic paralyses, particularly in those of children, but also in the cases of those adults who are good operative risks in other respects.

Reviews.

ENDOCRINOLOGY.

A second edition of Dr. Ivo Geikie Cobb's book on the organs of internal secretion[1] has been published little more than a year after the issue of the first edition. The author states that "the volume makes no claim to be considered an exhaustive and complete account of the endocrine glands, neither can it be considered as a comprehensive therapeutic guide to the administration of the organic extracts." The book is one intended for the general practitioner, its object being to excite his interest in the symptoms and therapy of diseases of the endocrine organs and it aims more particularly at drawing attention to the minor symptoms of these diseases.

There can be no doubt as to the importance of a knowledge of derangements of these organs, the symptoms of which, as Dr. Cobb points out, are frequently referred to under the comprehensive but often misleading title of neurasthenia.

[1] The Organs of Internal Secretion, Their Diseases and Therapeutic Application: A Book for General Practitioners, by Ivo Geikie Cobb, M.D., M.R.C.S.; 1918. London: Baillière, Tindall & Cox; Crown 8vo., pp. 274. Price, 7s. 6d. net.

The author is evidently well acquainted with the extensive literature of the subject and endeavours to place impartially before his readers the varying views held by different writers as to the functions and disorders of the organs of internal secretion.

As might be expected, diseases of the thyroid gland, as they affect both excess and deficiency of secretion, claim considerable attention. Stress is laid on the minor degrees of derangement of the gland, the symptoms of which are particularized. Differences of opinion as to the parathyroid function are frankly set forth. The importance of care in dosage when using thyroid preparations therapeutically is emphasized. The attention of the reader is directed to this question of accurate dosage in all hormone therapy, as well as to the necessity of being sure of the drug ordered possessing the required therapeutic properties of the internal secretion. Other chapters deal with disorders of the pituitary and adrenal glands, the pancreas, the digestive and sexual organs. In a chapter newly added to this edition, the author discusses the relationship of diseases of the endocrine glands and nervous disorders. In the final chapter he summarizes his general conclusions and discusses the present place of hormone therapy in medicine. A bibliography includes a list of the more important works on the subject.

The book is well written and easily read. Anyone who desires to keep himself in touch with recent advances in medical thought must be conversant with researches and speculations in the domain of the organs of internal secretion. This book may be confidently recommended to the practitioner as a good introduction to this study.

University Intelligence.

THE UNIVERSITY OF WESTERN AUSTRALIA.

A meeting of the Senate of the University of Western Australia was held on July 21, 1919. The Pro-Chancellor welcomed Dr. A. J. H. Saw on his return from active service with the Australian Imperial Force.

A letter was received from Mr. J. S. Battye, of Melbourne, dealing with the pathological specimens which have recently been brought from the western front to Australia for distribution among the Australian universities. Mr. Battye expressed the opinion that it would be advisable to transmit all the specimens that had been allotted to Western Australia to Perth. Some of these specimens would be of great value to medical practitioners. The Commonwealth Government had undertaken to defray the cost of freight, carriage and bottles to contain the specimens.

In the report of the Vice-Chancellor reference was made to the work of the University since the last meeting of the Senate, to the influenza epidemic, to the courses for dental students, to the teaching of mathematics and physics and to a conference on music held in Melbourne. It was reported that the Orient line of mail steamers had offered two first-class return passages each year for graduates of the University who desired to proceed to Europe, for the purpose of continuing their studies. It was resolved that the thanks of the Senate be conveyed to the Acting Branch Manager, for having obtained this concession.

It was reported that it had been found impracticable to arrange at present for the suggested courses in science for journalists.

The announcement has been made in the *Western Australian Government Gazette* that His Excellency the Governor in Executive Council had approved of the appointment of Dr. R. C. E. Atkinson, Commissioner of Public Health, to be Commissioner of Public Health and Principal Medical Officer, at a salary of £1,020 per annum, as from July 1, 1919.

The fee to be paid to a medical referee for a certificate in the Form "G" given under the provisions of *The Workers' Compensation Act, 1912*, of Western Australia, has been fixed at £1 1s.

The Medical Journal of Australia.

SATURDAY, AUGUST 16, 1919.

The Medical Officers' Relief Fund.

The Medical Officers' Relief Fund is a going concern. The Federal Committee gave it a blessing at the start and left it in the hands of the Trustees and of the six local committees in the several States. The success or failure of the Fund is in the hands of the members of the medical profession of Australia. Rumours are abroad that those who have pledged themselves to this undertaking, have not made sufficient calculation to justify their appeal to their colleagues for generous support. It is asked: how many incapacitated medical men are there in the Commonwealth; how many widows of medical officers left ill provided; how many returned medical practitioners have found their practices dissipated and have no money to start again with a fair prospect of success? It is further asked whether it is not likely that very little will be needed to meet the requirements of the men who have been on active service? Visions are drawn of a large fund without any calls on it, of money lying idle that might have been used by the practitioners who are asked to give. All these questions are reasonable from a business point of view. But this is not a business proposition. Sentiment displaces hard calculations in this exceptional instance. Sentiment pervades the whole question and renders all the ordinary business tests futile. In the first place, it is extremely difficult to ascertain at the present juncture how many persons will benefit by the fund. The Trustees and the local committees are gathering information concerning the men who have been incapacitated. But until money is available, it is extremely unlikely that these men will discuss with anyone, save perhaps their most intimate friends, whether their physical incapacity is likely to interfere with their earning capacity. Many in all probability are as yet unaware of the exact extent of the handicap that they carry as a reminder of their period of active service. This information will have to be sought through indirect as well as direct channels and the enquiry will have to be undertaken in a tactful manner, so that no one is hurt thereby. It can scarcely be completed until funds are available and those enquiring are certain that the proffered assistance exists in fact. The position is somewhat similar in regard to the widows of the brave dead. We understand that in some instances assistance is being extended to widows and orphans at the present time by individuals who have assumed this responsibility in a spirit of loyalty to their dead colleagues. There may be difficulty in ascertaining the facts at first, but means can be found to bring them to the light of day. The medical profession as a whole, through the instrument it is now forging, should be allowed to undertake this relief. In regard to the third group of those who will have a claim of the fund, the local committees will be required by the Trustees to sift the facts with care. Some may make a direct claim for help. The local committees will be in a position to ascertain whether these men have suffered pecuniary loss or other disabilities as a result of war service. That is one of the objects of the appointment of the local committees. Is it reasonable to suppose that these men would come forward with claims before the fund is in existence that is to grant them assistance? Others will be reluctant in making any application. The local committees will have the duty of endeavouring to find out all cases of pecuniary embarrassment as the result of active service. The task will be difficult and for this reason we hope that those men who are handicapped in the manner indicated, will approach the local committees and make their difficulties known to them. The loan of a few hundred pounds will make all the difference to these men. Repayment can be made at convenient times and we have no doubt that the question of interest, which the Federal Committee has set out in the most elastic manner, can be adjusted without difficulty in each case.

It thus appears that sentimental reasons stand in the way of an accurate reply to the questions referred to. The Trustees and others who have given this matter much thought and have made enquiries in various parts of the Commonwealth, hold the opinion that a large sum of money will be required to cover the needs of the fund. The Trustees name

£50,000. We have estimated a considerably larger amount. The Federal Committee have taken the wisest course in appealing to all medical practitioners to give as much as they can and to give it promptly. The amounts collected in this manner will be announced in these columns. Medical practitioners are urged to regard the fund from the point of view of sentiment. Over one-third of the medical practitioners of Australia answered the call and left their homes, families and practices. The record of a large number of these men is magnificent. They made sacrifices of a real kind. They faced dangers willingly and with that disregard of their personal safety that is characteristic of Australians. They worked day and night under terrible conditions, when heavy military movements were being undertaken. In giving to the Medical Officers' Relief Fund those who unfortunately were not able to go, are merely showing a small recognition of the sacrifices these men have made. They must regard it as a great privilege to be able to ameliorate the condition of their colleagues who are suffering as the result of their service. The fund should be large, if for no other reason than that it may be an adequate expression of feeling of the whole medical profession toward its members who did their duty and did it grandly. Forget income tax, rising prices, investments! Empty your banking account into the Medical Officers' Relief Fund!

DYSENTERY CARRIERS.

The nature of amœbic dysentery has been recognized for over a third of a century. The first observer to detect amœbæ in dysenteric stools was Loesch, a Russian physician. In 1887 Koch and Gaffky described the amœbæ more accurately, and in 1903 Schaudinn differentiated *Entamœba histolytica* from *Entamœba coli*. Bacillary dysentery was distinguished from amœbic by Shiga in 1898. The Shiga-Kruse bacilli were recognized as the common causes of dysentery in the temperate regions of Europe about the year 1900, while Flexner's bacilli were first described in 1892 and were acknowledged as causal organisms of certain forms of dysentery in 1901. It is probable that the Y bacillus of Hiss and Russell represents a special group of the Flexner type of organism. It is thus seen that when the great war spread to Egypt, the Dardanelles, Mesopotamia and other countries in the East, the bacteriology of the dysenteries had long been known. It is further remarkable that the ipecacuanha treatment of amœbic dysentery and the serum treatment of bacillary dysentery were by no means new ideas in 1914. Shiga introduced a serum in the early days and claimed to have obtained good results with it. Flexner's serum was also regarded as a reliable means of treatment. Kruse, Rosenthal, Vaillard and Dopter, Krause and Dörr also introduced anti-Shiga sera between 1898 and 1906. Prophylactic immune sera were also in use before the war. Notwithstanding these facts and notwithstanding an extensive knowledge concerning the clinical signs and symptoms and the pathological lesions of both amœbic and bacillary dysentery, it required the experience of Gallipoli to demonstrate the necessity of establishing the differential diagnosis before these affections could be dealt with under war conditions. This experience has further proved that, while it is usually easy to cope with an attack of either form, there are many infections that are extremely persistent and difficult to cure. It is known that the symptoms of dysentery may recur without any fresh infection for several years, while it has also been noted that some persons harbour either bacilli or amœbæ for long periods without manifesting any signs of disease. The important subjects of chronic infections and of "carriers" of bacilli or of amœbæ have attracted the attention of Captain William Fletcher and Dr. Doris L. Mackinnon during the course of their studies at the University War Hospital, Southampton. They seized the opportunity of ascertaining the medical history of 229 men who were convalescing from dysentery.[1] Of these 122 were found to be harbouring *Entamœba histolytica*, including 9 who were simultaneously harbouring bacilli, 61 were carriers of *Bacillus dysenteriæ* Flexner and 13 were carriers of *Bacillus dysenteriæ* Shiga. Their studies revealed the highly interesting fact that men suffering from a chronic infection with Shiga's bacillus were bodily and mentally ill and could be distinguished at a glance from those whose chronic infection was due to Flexner's bacillus. These men passed mucus and at times blood in their stools; they complained bitterly of tenesmus and the exhausting diarrhœa. One of the characteristics of this form of chronic infection is the liability to repeated relapses on the slighest provocation. A small indiscretion in diet, light work or even mild exercise sufficed to determine an attack. The Shiga type of bacillary dysentery was contracted in nearly every case either in the near East or in tropical countries. This fact is in contradiction to Kruse's statement in 1900 that the only dysentery known in Germany at that time was caused by the Shiga-Kruse bacillus. The authors contrast the deplorable condition of these chronic invalids with that of the apparently healthy carriers of *Entamœba histolytica*. Fortunately, the carrier state was relatively infrequent with the Shiga infection. Among 935 convalescents, 13, or 1.39%, were found to harbour Shiga's bacilli, while 58, or 5.56%, were carriers of Flexner's bacilli. All the persons carrying Shiga's bacilli were resistant to treatment and remained carriers for at least a year

[1] A Contribution to the Study of Chronicity in Dysentery Carriers, by Captain William Fletcher, R.A.M.C., and Doris L. Mackinnon, D.Sc.: National Health Insurance, Medical Research Committee, Special Report Series, No. 29, 1919.

after the infection. A careful observation of the patients and an equally careful study of the infections led the authors to the opinion that it was needlessly cruel and quite wasteful to send these men back to the firing-line as soon as their symptoms cleared up. They were and remained invalids and their illness demanded that they should be taken care of for a prolonged period.

The picture presented by the carriers of Flexner's bacilli was very different. The majority of these men appeared but little disturbed in their general health. They were capable of undertaking their usual occupations. Many of these men excreted bacilli in detectable numbers at varying intervals of time. Sometimes as long as six months elapsed between the date of the disappearance of the bacilli from the stools and their reappearance. This intermission appears to be characteristic of the Flexner type of chronic dysentery. On the other hand, persistence of the carrier state for three months or more was noted in only 13 of the 61 carriers. Among 847 men convalescing from conditions other than dysentery, nine were found to be harbouring Flexner's bacilli. In three of these men no history of a previous attack of dysentery was obtainable.

In the last place, the men harbouring amœbæ and suffering from chronic dysentery were, as a rule, able to lead relatively comfortable lives as long as they were allowed to attend to their own diet. Nearly all these carriers had contracted their infections in tropical or sub-tropical countries. About one half of the carriers suffered from repeated attacks over a period of at least one year. It thus appears that medical practitioners in Australia will have to be alive to the probability of numerous cases of chronic dysentery among soldiers returned from Egypt, Palestine and other Eastern countries. When the infecting organism is Shiga's bacillus, the diagnosis will usually be easy and, consequently, while the condition of the patient remains pitiable, the infection need scarcely constitute a serious danger to the community. From the public health point of view the more frequent infections with amœbæ and Flexner's bacilli are more serious, because they are more difficult to recognize.

PHAGOCYTOSIS AND AGGLUTINATION OF PNEUMOCOCCI.

The differentiation of the fixed types of pneumococci is carried out partly by the recognition of cultural and morphological characters, partly by the results of virulence tests in animals and partly by means of the agglutination test. Much controversy has taken place in regard to the reliability of these methods of differentiation, in view of the possibility of error arising from the personal factor in the determination of morphological characters and from the refractory behaviour of certain strains in test sera. The majority of workers in the laboratory, however, are prepared to recognize the three fixed types by their agglutinative response. While there is little reason to question the reliability of this differentiation, the matter is of such great importance in connexion with prophylactic immunization and the serum treatment of the pneumonias, that any confirmatory evidence that can be devised, should be eagerly welcomed. In 1913, Dr. Paul W. Clough, working at the Johns Hopkins Hospital, noted that the serum of patients recovering from pneumonia was endowed with the power of causing the phagocytosis of pneumococci of the type that was causing the infection. The fact that the serum of persons suffering from pneumonia can determine the phagocytosis of pneumococci has been recognized for several years. Dr. Clough endeavoured to show that this character, as well as that of agglutination, was type specific. He has continued his researches and has now a considerable amount of evidence to support his original contention.[1] At first he was of opinion that the specificity extended to the individual strains within the three fixed types, but this view has proved to be fallacious. This quality of the serum does not develope until the patient is approaching the end of the fever, either by crisis or by lysis. At times it does not appear until the crisis has arrived or has passed. It is rarely met with in fatal cases. The appearance of agglutinin in the serum is not coincident with that of the substance giving rise to the phagocytosis. He points out that the phagocytosis is not brought by opsonins. In the first place, the virulent pneumococci which are phagocyted by the patients' sera, are unaffected by normal human serum. In the second place, the power of phagocytosis is not destroyed by heat, as is the case with opsonins, but once the serum becomes inactive, either after having been stored for several weeks or from any other cause, it cannot be reactivated by the addition of complement. The substance described by Neufeld under the term bacteriotropin is probably responsible for the phagocytosis. He is inclined to the opinion that the phenomenon plays an important rôle in recovery from pneumonia. In support of this contention, he cites the facts that it appears only at or near the crisis in cases that terminate in recovery, that it is limited to organisms of the same type as that which causes the illness in the patient, that the phagocytic activity of the serum runs closely parallel to the protective power for mice and that phagocytosis in the peritoneum of the protected mouse corresponds closely to the phagocytosis in the test tube.

We regret to announce the death of Dr. Lionel Braim Daly, of Hawthorne, Victoria. Dr. Daly, who served in the Royal Army Medical Corps during the early stages of the war, was appointed to the Isisford Hospital, in Central Queensland, on his return from active service. He was recently attacked with influenza and died of pneumonia on August 5, 1919.

In *The Medical Journal of Australia* of May 21, 1919, we announced that Mr. Milton Moss Maughan had resigned his position as Director of Education of South Australia. We learn from the *South Australian Government Gazette* of August 7, 1919, that Mr. William Taylor McCoy, B.A., has been appointed to this position.

We learn that Lieutenant-Colonel George Edward Myles, R.A.M.C., formerly a member of the Lunacy Department of New South Wales, has been created a Commander of the Bath for valuable services as mental specialist in the Southern Command.

[1] *Bulletin of the Johns Hopkins Hospital*, June, 1919.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(53) Migraine.

Besides the classical symptoms of scintillating scotoma, headache and vomiting, there are two others, of which Herbert Fisher speaks from personal experience, namely, (1) a marked reduction in the pulse rate, (2) polyuria (*British Journ. Ophthalm.*, June, 1919). The migraine spectrum lasts for about twenty minutes, the visual aura of epilepsy for a few seconds only. The latter is cortical in origin, but the migraine spectrum is produced by irritation of the visual nerve fibres at the base of the brain. The inter-peduncular is the only region where such a condition can arise, explaining the varieties of the migraine scotoma. The author therefore puts forth the suggestion that the pituitary is the exciting agent of migraine and considers that he is the first to do so. Slight swelling of the hypophysis would exert sufficient pressure to irritate the visual fibres in any of the required positions. The cessation of migraine during gestation, the climateric and after the age of about 50 in males are very suggestive. Headache, slow pulse and vomiting indicate intra-cranial pressure, and swelling and over-activity of the hypophysis through the choroid plexuses might well cause it. The author is treating some migraine subjects by glandular therapy. He suggests that decompression at the *sella turcica* would probably be efficacious.

(54) Dacryocystostomy.

J. V. Paterson and J. S. Fraser present a report of fifty cases of intranasal drainage of the lachrymal sac (*British Journ. Ophthalm.*, May, 1919). Of the patients, 43 were females and seven males. In 27 cases the nose was normal, in 23 others there was found deviation of the septum, enlarged inferior turbinal bones and other conditions, but the conclusion was arrived at that these nasal abnormalities were not the cause of the dacryocystitis. The operation: In children a general anæsthetic is given; in adults an injection of heroin and atropine is given half an hour before the operation and the region in front of the anterior end of the middle turbinal is packed with strips of narrow gauze wrung out of 10% cocaine and adrenalin (5 drops of adrenalin solution to 55 of cocaine). Half an hour later the packing is removed and the inner surface of the frontal process of the superior maxilla is injected with 1% novocain and adrenalin (1 drop of adrenalin solution to 20 drops of novocain). Five to ten minutes later a D-shaped incision is made in this region, the straight portion posteriorly, just in front of the anterior end of the middle turbinal and the mucous membrane raised up and removed. This exposes the inner surface of the frontal process. The bone is removed with gouge and hammer and the lachrymal sac exposed. This is packed with 10% cocaine gauze and the lachrymal puncture dilated and a probe passed into the sac, making it bulge into the nasal cavity. The sac is then incised as far forwards as possible and a piece removed with double cutting forceps or with a knife and forceps. Results: Of 48 patients who reported, 38 may be regarded as being completely cured (80%) and five as improved (10%). In five cases the operation was a failure (10%).

(55) Gas Infection of the Cornea After Gunshot Wounds.

J. A. Pringle explains the rarity of gas infection of the face or the eye by the good blood supply of these parts, by the fact that dirty, clotted blood is not carried into the wounds and by the fact that the conjunctival sac is not favourable to anaerobic organisms (*British Journ. Ophthalm.*, March, 1919). The first case led merely to suspicion of gas infection, but was not specially investigated. The second case was in a man with septic face wounds, multiple dirty wounds of the right cornea and a perforating wound of the left. Five hours later the whole left cornea was infiltrated, soft and swollen and bulging at the wound. This eye was removed and from it was isolated a staphylococcus and a gas-forming bacillus. The investigation, however, could not be completed. Nine months later the author saw a third case in a man with a small wound of entry at the inner canthus of the right eye and swelling of lids and conjunctiva. There was loss of the inner half of the lower lid and a small portion of the upper. The patient had ethmoiditis and hypertrophic rhinitis. An ulcer developed over the lower portion of the cornea and two days later the lower and inner two-thirds of the cornea became swollen and œdematous and along the upper edge of this area a double row of minute bubbles of gas could be seen with the naked eye. Half an hour later the bubbles increased in size and spread upwards. One of the bubbles burst during the examination. The eye was excised. Major Patterson's bacteriological report is added.

(56) Changes in the Sella Turcica in Family Optic Atrophy.

James Taylor gives Herbert Fisher the credit of first suggesting that Leber's atrophy was dependent upon some abnormal condition of the pituitary, occurring, as it did, either at the time of sexual development or with the commencement of sexual decay (*British Journ. Ophthalm.*, May, 1919). A case is quoted of a man of 52 years (a member of a family afflicted with Leber's atrophy), whose vision suddenly altered and on examination revealed white discs and central scotoma for colours and changes in the *sella turcica* as shown by X-rays. This was long and shallow and the clinoid processes were abnormal. An X-ray examination of a brother of this patient, who was suffering from atrophy, showed similar and more extensive changes in the pituitary fossa. In this family the onset in several instances was very rapid; one member was under observation while optic neuritis was present.

(57) Nocardiasis of the Lachrymal Gland.

J. B. Christopheron and R. G. Archibald, of Khartoum, report a case of *nocardiasis* or *actinomycosis* in the lachrymal gland of a negro, aged 22 (*Proceed. Royal Soc. of Medicine*, December, 1918). The patient had swelling of the right eye and inability to open it. A thick yellow discharge poured out when the lid was raised; the swelling extended between the eyeball and the roof of the orbit. The growth was excised after slitting the external canthus; it measured 3.75 cm. in length and was bi-lobulated. A full account of the pathological histology is given, demonstrating the fungus and differentiating it from other known varieties. In the discussion that followed Ellich pointed out that, common as actinomycosis is in Madura, he had never seen a case of it in the eye or orbit.

(58) Acute Retrobulbar Neuritis in a Child.

M. J. Schoenberg relates the case of a child of four years who suddenly lost the sight of both eyes (*Archives of Ophthalm.*, January, 1919). On examination the pupils were found to be dilated, equal, regular and not to react to light. There was papillœdema of 2 D in each eye; no hæmorrhages or exudates. Colon irrigation resulted in the removal of large quantities of evil-smelling fæces, and the sight immediately began to improve and the pupils to react. Later it was observed that the boy had a central scotoma. High enemata still produced a large stool and X-rays showed a redundancy of the sigmoid and descending colon. About two months later the discs showed some temporal atrophy and blurring of the margins. The vision was still bad. There were no signs of increased intracranial pressure. The toxins were probably absorbed through the injured intestinal mucosa.

(59) Injuries of the Superior Oblique.

A. C. Snell's patient was a man of 28 who was injured above the right eyeball by the spout of an oilcan (*Archives of Ophthalm.*, March, 1919). Seen ten days later his chief trouble was double vision on looking downwards. There was limited movement of the right eye downwards and Maddox's rod revealed 4° of esophoria and 12° right hyperphoria. On exploring the superior oblique muscle it was found that the pulley's attachment was completely torn away. An attempt was made to fasten the tendon to the position of the trochlea, but it was unsuccessful. The diplopia continued and made the mechanical work impossible. Tenotomy of the inferior oblique of the same side was therefore performed after Posey's method. This proved entirely successful, a slight resulting diplopia above and to the left being of no inconvenience. Among the 42 cases collected by the author, 25 patients recovered without operation.

LARYNGOLOGY AND OTOLOGY.

(60) Intrinsic Cancer of the Larynx:

Laryngeal cancer is admittedly an uncommon disease and the intrinsic, or more hopeful, form is about twice as common as the extrinsic. Owing to the delay in diagnosis, only a restricted number of cases come to operation. St. Clair Thomson (*Journ. of Laryng., Rhin., Otology,* May, 1919) has performed laryngo-fissure on 38 cases of intrinsic laryngeal cancer. Twenty-two of the patients were alive and well at periods varying from six months to ten years after operation, while seven survived the operation and died from other causes. Local recurrences took place in only five out of 38 cases. No patient died from any cause directly attributable to the operation. Thomson compares his results with those of Semon, Chiari, Chevalier Jackson and Schmiegelow and concludes that the results of operations for these cancers compare favourably with those obtained by the surgical treatment of cancer in other internal organs. He holds, with Semon, that the first year after operation is the anxious one as regards recurrence, and he regards the first three months as the most critical. An epithelioma limited to a vocal cord which recurs in the first twelve months; he looks upon as an incomplete removal. Recurrence is more apt to take place at a later interval, when the anterior commissure or sub-glottic area is involved. He asks whether the disease, which reappears after three years, should not be regarded as a fresh new-growth. Chloroform was the anæsthetic he found most satisfactory and he preferred not to give a preliminary hypodermic injection of morphine and atropine, but to hold his morphine in reserve for cases of bleeding after operation. Preliminary infiltration of the skin incision with eudrenine solution and the intratracheal injection of a 2½% solution of cocaine gave excellent results. One long incision from the thyroid notch to the sternum was preferred and a preventive tracheotomy carried out. Knotted ribbon gauze was packed, through the divided thyroid, on to the top of the tracheotomy cannula, but there was no need to plug off the pharynx from the split larynx. As a rule, the tracheotomy tube was withdrawn as soon as the operation was completed and was not replaced. The thyroid ala was removed in four cases and it was found to facilitate the removal of the growth and made it easier to deal with the bleeding. After operation the patients were placed in bed in such a position that they were sitting almost upright and the windows of the room left freely open from the bottom day and night. In eleven of his cases a large granulation appeared in the wound in from fifteen days to two months after the operation, either on the cicatrizing cord or in the anterior commissure. In four cases it disappeared in from four to twelve months; in five cases he removed it with the indirect method, through the mouth and under cocaine, with McKenzie's duck-bill forceps, at periods of from two to three months after operation. Of the remaining two, one proved to be an exostosis and the other, a sub-glottic granuloma, necessitated the wearing of a tracheotomy tube for six weeks, at the end of which time the growth had disappeared. The voice after this operation was found to be sufficient for the ordinary purposes of life. Thomson thinks a week's silence after operation sufficient, after which period patients may commence whispering three or four times a day and, as soon as it is seen that a good cicatricial cord has replaced the one removed, they may be encouraged to speak. Bad voices should be placed under the care of a voice trainer. Thomson holds that in the case of patients who apply early with an epithelioma limited to a vocal cord, the death-rate should be nil, the restoration of the voice satisfactory and the cure lasting.

(61) Scheme for Tests of Hearing.

The Council of the Section of Otology of the Royal Society of Medicine recently appointed a committee to organize otological research. This committee drew up a scheme for standardizing the tests of hearing (*Journ. Laryng., Rhin., Otology,* November, 1918). (1) Conversational voice. Single words or sentences with opposite ear closed. Distance from ear is expressed as a fraction, with distance at which voice is heard from a normal ear as denominator. (2) Whisper. Conditions as above, but whisper produced by residual air after forced expiration. It is recognized that the voice tests are approximate only, as it is impossible to devise an exact standard. The words or phrases used to be recorded where possible. (3) Watch or Politzer's acoumeter. Distance from ear expressed as a fraction, with distance at which watch is heard as denominator. The acoumeter should be held strictly vertically. (4) Tuning-fork tests. (*a*) Lateralizing test (Weber's). The base of the vibrating fork to be firmly pressed on mid-line of forehead and the patient asked on which side it is more distinctly heard. (*b*) Relative bone and air conduction (Rinné). The vibrating fork is alternately pressed firmly on the mastoid and held with its limbs vertical and vibrating in the coronal plane close to the meatus, the position in which the tone is heard longer being noted. (*c*) Absolute bone conduction (Schwabach and Bing's tests). In these tests the perception of a tuning-fork pressed on the mastoid of a patient and of a normal observer is compared (*i.*) with the meatus open (Schwabach), or (*ii.*) with the meatus closed lightly by the finger (Bing). The difference of the duration of perception, expressed in seconds, between the ears of observer and patient is noted. (*d*) Tone range. (*i.*) Upper limit of air-conduction by Edelmann-Galton whistle or steel monochord (gauge of wire to be stated). (*ii.*) Upper limit of bone-conduction by steel monochord. (*iii.* and *iv.*) Lower limit of air and bone conduction by tuning-forks. In all tuning-fork tests the number of vibrations per second, whether single or double, and the make of fork should be stated in each case.

(62) Paraffin-Injected Tissue.

The microscopical appearance of tissue removed by operation from a nose injected ten years previously with paraffin to correct a deformity, is the subject of a report by Wyatt Wingrave (*Journ. Laryng., Rhin., Otology,* November, 1918). The paraffin was found to have penetrated indiscriminately between muscular fibres and areolar tissues, compressing and distorting them, so that their identity was often obscured, the individual muscle-fibres being cloudy and their striation lost. Tracts and spaces occurred lined by endothelium, either as a single flattened layer or as several layers of swollen cells, at places so massed as to suggest neoplastic activity. In size and shape these cells varied considerably; some exhibited characters like young "giant-cells," with one or more nuclei, but most were mononucleated and contained abundant cytoplasm, recalling syncytial or decidual elements. They evidently underwent two changes (1) a fibroblastic, which predominated, and (2) a retention of form, with grouping, massing or spreading. Plasmocytes and lymphocytes, the significant and invariable associates of slow toxic information, were absent. The change was, therefore, endothelial and conservative in nature. There was no sign of caseation or lymphocytic deposit in connexion with the "giant-cells." The paraffin, being a foreign body, kept the cells in a state of activity, either by chemical or by purely mechanical irritation, and was in consequence potential for harm. Islands of endothelial cells, near the paraffin spaces, histologically bore a close resemblance to mesotheliomatous formation, and were, therefore, neoplastic *in posse*.

(63) A Serological Investigation of Vincent's Angina.

Over 300 patients with fuso-spirillary infection were recently examined bacteriologically by Frank E. Taylor and W. H. McKinstry (*Journ. Laryng., Rhin., Otology,* October, 1918). About half of these were found to display typical evidence of Vincent's angina. Fifty-five of the latter, selected at random, had their blood examined by the Wassermann test. Two only gave a positive reaction and both of these admitted syphilitic infection some years previously. As a result of this investigation and a consideration of the cases recorded in the literature, the authors are of opinion that the prevailing belief in the occurrence of a positive Wassermann reaction in Vincent's angina has no foundation in fact, that Vincent's angina and syphilis can be differentiated with absolute certainty by the application of bacteriological and serological methods and that when the complement-fixation test of Wassermann is positive in cases of Vincent's angina, a double infection exists, either as a coincident syphilitic and Vincent's infection, or as the occurrence of Vincent's angina in the subject of latent syphilis.

INFLUENZA AND MARITIME QUARANTINE.

Dr. J. H. L. Cumpston, Director of Quarantine, has issued a Service publication upon Influenza and Maritime Quarantine in Australia.[1] This volume contains 119 pages of matter of great importance to Australian hygienists. No summary, however full, can be as valuable as the original publication. In view, however, of the far-reaching deductions drawn from the data collected, it is proposed to recapitulate the chief points contained in the narrative. The findings will be subjected to a critical analysis in a subsequent issue.

The History of Influenza in Australia.

The history of influenza in Australia has been traced back as far as 1820. Dr. Cumpston reproduces notes from various sources to indicate the nature and extent of each outbreak. The second reference to influenza in Australia bears the date 1826, while the third occurred ten years later. Dr. Springthorpe is quoted as the authority for the outbreak of 1847. Of the 1852 epidemic, only scanty and apparently not very exact information is available. Much more information is quoted in regard to the 1860 epidemic, which appears to have been general throughout Australia. Dr. E. S. Hall contributed a valuable record of the epidemic of influenza in Tasmania. In 1884 some influenza is supposed to have prevailed in parts of Victoria. It was apparently mildly endemic or epidemic in 1885 and culminated in a small, definite epidemic, chiefly limited to South Australia, in the following year.

Dr. Cumpston sketches the situation between this date and 1890, the year of a great outbreak. In 1889 there were 21 deaths in Victoria from influenza. In 1890 the number was 154 and in 1891 it reached 1,035. In the following years the number of deaths varied from 111 to 422, while in 1899 no less than 963 persons died of influenza. In Victoria the epidemic of 1890 lasted for about three or four months from the end of March. The disease was first recognized in Sydney in the third week of August, 1891, and the epidemic had spent itself by the first week in October. The small outbreak of 1894-95 affected every State, as did the more severe epidemic of 1898-99, New South Wales excepted.

Maritime Quarantine.

Dr. Cumpston gives an unreserved account of all the facts directly or indirectly concerned with the spread of epidemic influenza to Australia. In July, 1918, the Quarantine Service received unofficial information that there was evidence of an impending epidemic prevalence of a severe form of influenza. The epidemic started in the United Kingdom and on the Continent of Europe with a relatively low virulence. In view of the possible serious consequences of an enhancement in the virulence of the infection and of a spread of this infection to Australia, a careful watch was kept, and, at the first indication of danger, plans were laid for an endeavour to hold the infection at bay, when it should arrive. Early in October the infection had already travelled over the greater part of the globe. Instructions were given that vessels arriving in Australian ports should be quarantined, if anyone on board showed signs of influenza. Shortly after these instructions were issued the Quarantine Service received information concerning a severe and virulent outbreak in South Africa. A difficulty was anticipated in regard to the impossibility of distinguishing epidemic influenza under all circumstances from other diseases. It was therefore determined that the quarantinable disease should be defined as influenza or any febrile, toxic, septicæmic condition similar to influenza. Reference is made to the existence of public alarm throughout South Africa and New Zealand and, to some extent, in Australia.

All vessels from South Africa and New Zealand were at that time required to perform a seven days' period of quarantine detention, whether infected or not. A vessel that had called at a South African port was given immediate pratique when the master could furnish a statutory declaration that there had been no contact with the shore during the stay and that no cases of influenza had occurred during the voyage. The period of seven days was fixed arbitrarily and may have been somewhat longer than necessary. The masters of overseas vessels were required to report cases of influenza or of illness resembling it, acute febrile attacks, pneumonia and acute infections of the lungs of any kind. Statutory declarations of freedom from infection had to be countersigned by the medical officer or surgeon on board the ship or, in the case of transports and other military vessels, by the medical officer in command.

An endeavour was made to cope with any possible extension of infection by means of a carrier of the virus of the disease. The method at that time in vogue among the allied armies was the disinfection of the naso-pharynx by means of a sprayed solution of zinc sulphate. All persons detained were required to submit themselves to a daily thermometer parade, while any person whose temperature was found to exceed 37.2° C., was isolated for observation. Uninfected vessels were released at the end of seven days, during which all the persons on board were inspected and treated by inhalation each day, provided that no case of infection occurred. The detention of clean vessels was applied only in the case of vessels from New Zealand, from South Africa and from those Pacific Islands concerning which satisfactory information could not be obtained. From other countries only infected vessels were detained.

In regard to so-called infected vessels, the procedure varied according to whether there were any cases of influenza among those on board at the time of arrival or not. In this connexion it is necessary to point out that Dr. Cumpston, in common with many medical men, does not exercise care in distinguishing between "cases" and "patients." The effect of this confusion is far reaching. If writers would indicate when they are referring to the patient or person and when they are dealing with a case or instance of disease, this confusion would disappear. An endeavour is made in this summary to rectify the wrong use of the word "case," although we can accept no responsibility for mistake arising out of ambiguity of expression. When a vessel arrived in port with a record that no person on board had been ill with influenza during the previous fourteen days, the period of detention was fixed at three days. If no further cases arose during these three days among any of the passengers or crew, the vessel was released. Complete reliance had to be placed on the statutory declaration of the master and senior medical officer. Instances are quoted, however, in which the fact of influenza having occurred among the persons on board was not divulged in the declaration. Some control of the declaration was available by the examination of the hospital admission register. On the other hand, when cases had occurred among those on board within the fourteen days prior to the arrival of the vessel, or when one or more persons were found to be suffering from the disease on arrival, the period of detention was at least seven days. Pratique was granted in the former case, provided that no further infections take place. In the latter case, all the patients were isolated as soon as possible after the fact of illness was ascertained. The remainder of the persons on board were divided into groups and sub-groups, according to the ascertained exposure to infection. These contacts were inspected daily and subjected to a "thermometer parade." All the contacts were inoculated with Commonwealth vaccine. Dr. Cumpston states that at first this was admittedly an experiment, "but such good results followed the application of this measure that, in the absence of any indication to the contrary, it was considered highly desirable to proceed with this measure." The members of the staffs at the quarantine stations were compelled to wear masks during the continuation of a spreading epidemic. Convalescents were discharged in accordance with the following rule. The patient was kept in bed for five days after the temperature had reached the normal line. He was then transferred to the convalescent area for a further seven days, after which he became eligible for release.

As there was no evidence that infection can be transferred through the agency of inanimate objects, their disinfection was not carried out as a rule. It is stated that there has been no evidence to show that this omission has been attended with risk.

The quarantine restrictions were reduced as the epidemic in South Africa, New Zealand and other countries overseas declined. After January 2, 1919, vessels from South Africa were not detained if free from infection on arrival, while the same reduction of restrictions was introduced in connexion with vessels from New Zealand after April 17, 1919, provided that a certificate from a responsible authority was produced to the effect that a medical examination had been

[1] Influenza and Maritime Quarantine in Australia, by J. H. L. Cumpston, M.D., D.P.H., Director of Quarantine. Commonwealth of Australia, Quarantine Service: Service Publication No. 18, 1919. Issued by authority of the Minister of Trade and Customs.

carried out at the port of departure and that no infection was discovered among those on board. Daily surveillance for three days was required for the passengers, while the crew were kept under medical supervision for the same period.

Movements of Ships During the Epidemic Period.

Between the dates of October 17, 1918, and April 30, 1919, 146 ships, carrying 15,016 persons, arrived in Australia without an indication that any of these persons had been or were at the time of arrival infected with influenza. The period that had elapsed between the sailing from the last infected port and the arrival in an Australian port varied from 4 to 189 days, while the total periods, including the period of quarantine detention, varied from 7 to 193 days. The experience of these 146 ships seemed to indicate that "if a vessel from an oversea port is free from influenza during the voyage and on arrival, there is no probability that detention in quarantine for observation will cover any risk not covered by measures applied to definitely infected vessels." Such an assumption could not be upheld if it could be shown that influenza had occurred among persons in quarantine from a ship that had remained free from infection during the voyage. There were three instances in which it appeared as if this had taken place. In the case of the voyage of the *Atua*, which left Suva on December 7, 1918, and arrived at Sydney on December 13, 1918. Enquiry, however, elicited the fact that, notwithstanding the statement of the surgeon that no cases had occurred during the voyage, the surgeon's own diary contained a reference to three cases during the six days' voyage. H.M.A.S. *Encounter* left Suva on December 10 and arrived at Sydney on December 17, 1919. The *Atua* left Suva on January 30, 1919, and arrived at Sydney on February 7, 1919. In each instance one case of illness was noticed within 24 hours of arrival in quarantine. A second case of illness occurred among those on board the *Atua* two days later. Further enquiry brought to light the opinion of the surgeon on board the *Encounter* that the illness was a septic affection of the throat and not influenza. It is uncertain whether this diagnosis was correct. It was determined that the two patients on board the *Atua* were suffering from acute miliary tuberculosis and an extremely mild febrile attack associated with some pharyngitis respectively. There was no contact between them. As the diagnosis of influenza was made, Dr. Cumpston does not feel justified in denying the possibility, although it would seem to be unlikely. He points out that this ship would represent the only one among the 146 ships under consideration to which the general rule might not apply.

Infected Vessels.

In dealing with the conditions on board infected vessels, Dr. Cumpston points out that it has been found that there is a distinct relationship between the progress of an epidemic in any country and the number of infected vessels from that country. He publishes graphs to illustrate this point. When the epidemic is waning in a country, the probability of infection escaping by sea-routes reaches so low a level at a certain period that special measures of protection become unnecessary.

It was noted that in every case of which reliable information was available, an epidemic breaking out on board a vessel started within three days after the ship had left the infected port. In two instances only were the first cases delayed until the third day. The epidemic started in members of the crew of 19 passenger or cargo vessels and in passengers of seven vessels. In the case of troopships, the epidemic first appeared among the troops in 35 cases and among the crew twice. In order to ascertain the course of an epidemic on board ship, Dr. Cumpston has set out the details concerning each of the vessels which were found to be infected on arrival in Australia. In the case of cargo steamers with a small population on board, the length of the epidemic was apparently determined more by the infectivity of the particular type of disease than by the chances of infection. The *Niagara* is quoted as a vessel on which an epidemic started without any exact record having been kept. There were 313 passengers and 254 members of the crew. Apparently the first case was noted three days after the vessel left Vancouver and on the fifteenth day there were 70 cases. Three days later the total number amounted to 103. The total number of persons unaffected by the epidemic, which was complete by October 21, 1918, was nearly 400 out of a total complement of 567. On board the *Atua* the epidemic lasted for twelve days and left close on half the ship's company uninfected. The epidemic on board the *Manuka* lasted for 13 days, while that on board the *Medic* lasted for 40 days. On the last-named vessel there were 989 persons, of whom 313 were infected and 676 escaped. On the *Boonah* during seven weeks and two days 470 persons out of a total of 1,095 were infected. It is pointed out that on this vessel isolation between the various sections of the ship's company was a matter of impossibility. The epidemic on board the *Devon* was relatively violent during 17 days and lasted for 24 days. Of the troops on board, 8.8% were infected and of the crew 12%. None of the 986 passengers got the disease. On the *Marathon* there were 920 troops and 121 members of the crew. During the course of 12 days 89 of these persons became infected and four died. From a tabular statement it appears that the frequency of the disease among the persons on board the various ships varied between 8% and 62%.

Emphasis is laid on the uniformity of distribution of cases of infection under the conditions existing on a troopship. As an example of this, it is pointed out that on the *Boonah*, where there was but one troop deck, the soldiers were recruited from the various States in the following proportions:—

Victoria.	South Australia.	N.S.W.	Western Australia.
40%	22%	19%	19%

The proportion of soldiers infected was as follows:—

Victoria.	South Australia.	N.S.W.	Western Australia.
43%	23%	18%	16%

On the other hand, there was no uniformity of distribution between the soldiers infected and the members of the crew infected. Among the soldiers the disease affected 46%. Among the crew it affected 22%. It is claimed that on this particular vessel there were no differences in the living conditions to account for the disparity. On the *Mataram* the disease affected 57% of the coloured crew, 62% of the European crew and 8% of the passengers. On the *Niagara* 57% of the crew and 3% of the passengers were affected. On the *Medic* 33% of the crew, 24% of Australian troops and 50% of Italian reservists were affected, while all four of the passengers were victims of the disease.

A graph is reproduced, showing the daily incidence of infections on board the *Devon*. In this epidemic no member of the crew was infected during the first six days. There were 21 fresh cases on the third day and from that day until the eighth day the number of fresh cases diminished irregularly. From the eighth day onwards the epidemic was represented by single cases occurring at intervals.

The following methods were employed in the endeavour to control the epidemics on board ship: the use of a spray of zinc sulphate solution, the inoculation of persons on board with a mixed vaccine and the isolation of affected persons. Dr. Cumpston discusses the part played by the hypothetical natural decline in the virulence of infectivity of the infecting organism and by the hypothetical exhaustion of susceptible material, in causing the disappearance of the epidemic. He disposes summarily with the suggestion that isolation on board ship in the course of an extensive epidemic can be carried out efficiently. In regard to the efficacy of inhalation, he compares the instances of the *Medic* and of the *Boonah*. On the former vessel, inhalation was not commenced until the epidemic was practically over. On the latter, every soldier was required to pass through the inhalation chamber each day during the whole voyage. The only difference between the epidemic curves was that in the case of the *Boonah* epidemic the recovery to zero occupied eleven days, while it occupied only five days on the *Medic*. He considers this evidence sufficient to establish the fact that inhalation with zinc sulphate by itself is of no value for the control of an epidemic in full swing.

Turning to the question of inoculation, he records the fact that on the *Medic* inoculation was carried out on the day the maximum number of cases occurred, while on the *Boonah* it was carried out after the crest of the curve had passed. In each case there was a sudden decline to zero in the curves, the angle being approximately the same in each instance. He suggests that these two cases appear to offer conclusive argument against the existence of a negative phase which has been presumed to exist.

The troops on board the *Lancashire* and the *Nestor* were inoculated before leaving England. On board both vessels there was a succession of mild cases of "one-day catarrhal fever," "pyrexia of unknown origin" and similar febrile conditions. The epidemic course was irregular and prolonged. Before arriving at any conclusion as to the significance of inoculation, Dr. Cumpston proceeds to examine the question of the alleged exhaustion of susceptible material.

(To be continued.)

British Medical Association News.

MEDICO-POLITICAL.

Meeting of the Federal Committee.

(Continued from page 120.)

Medical Officers' Relief Fund.

The Honorary Secretary read a letter which had been addressed to the various Branches concerning the establishment of the Medical Officers' Relief Fund and the replies received approving of the resolutions of the Federal Committee concerning this Fund (see *The Medical Journal of Australia*, August 24, 1918, page 169). He also reported that the New South Wales Branch Council, on the invitation of the Federal Committee, had nominated Dr. W. H. Crago, Dr. George Armstrong and Dr. R. Gordon Craig for the positions of Trustees. The chairman of the Federal Committee, in accordance with the resolution of the Committee, had appointed these three gentlemen to be the Trustees.

The Honorary Secretary also called attention to a circular letter which the Trustees had addressed to the members of the Brititsh Medical Association and other legally qualified medical practitioners in Australia (see *The Medical Journal of Australia*, July 19, 1919, page 58).

Mr. Syme referred to a communication by the Victorian Branch, asking for guidance as to procedure. He thought that the local committees should have information concerning the amount of money required for the purposes of the Fund. The Trustees had asked for £50,000, but he thought that it would be of assistance to the Committees if some data were made available concerning the number of medical officers or of widows who required assistance.

It was pointed out that, as the circular had not yet reached all the members of the profession in the several States, it was impossible to give any accurate information relative to the number of calls that would be made upon the Fund.

Mr. G. A. Syme moved in the name of the Western Australian Branch, at their request:—

> That the original motion of this scheme should also apply to medicial men who have given full time to the services of the Defence Department.

A general discussion ensued, in the course of which it became apparent that opinions were divided as to the wisdom of extending the objects of the scheme. It was held, however, that unless some provision were made in the case of men who had volunteered for service abroad and had died in camp before their appointments to the Australian Imperial Force were gazetted, the provisions would not apply. Moreover, many men had volunteered for service abroad but had not been accepted on account of some physical disability. These men had been accepted for whole-time service in the Commonwealth and it was thought that they should have a claim on the Fund, if it could be shown that they had suffered as a result of their military service. In order to meet exceptional cases, Dr. F. S. Hone moved, as an amendment, that the word "should" be deleted and the word "may" be inserted in its stead, and the words "in any case thought advisable by the Trustees" he inserted. Dr. Fetherston seconded the amendment, which was carried as a substantive resolution, in the following form:—

> That the original motion of the scheme may also apply in any cases thought advisable by the Trustees to medical men who have not left Australia, but who have given full time to the services of the Defence Department.

Dr. J. Espie Dods thought that it was imperative for the Federal Committee to determine at once what should be done with the money after all the claims on the Fund had been satisfied. The Queensland Branch favoured a perpetuation of a scheme of medical benevolence and thought that that scheme should be administered Federally and not in each State. He therefore moved:—

> That the Trustees be instructed to have a deed of Trust drawn up, such deed to include a clause giving the Trustees powers to utilize the residual fund for the purposes of medical benevolence.

The motion was seconded by Dr. J. Lockhart Gibson.

It was mentioned that a suggestion had been made in New South Wales that the residue might possibly be used for the purpose of endowing medical research. It was thought, however, that it would be wiser to restrict the use of the money given to the Fund as nearly as possible to the objects for which it was given.

The motion was carried.

A further discussion ensued, at the suggestion of Dr. F. P. Sandes, on the question of the order of precedence of claims on the Fund. It became apparent that the members of the Committee were desirous not to hamper the Trustees in any way in the administration of the Fund. No motion was put before the meeting.

Post-Graduate Training for Returned Medical Officers.

The Honorary Secretary read letters from the Queensland Branch, the New South Wales Branch and the South Australian Branch, dealing with the question of facilities for post-graduate training for naval and military medical officers returning from active service abroad. It was pointed out that in certain instances the men on returning were not anxious to attend post-graduate courses, but wished to enter practice without loss of time. Among those who applied for post-graduate training, several had limited their requirements to midwifery. On the other hand, it was recognized that in the interests of their patients many of the young graduates who had gone to the war in 1914 or 1915, should receive instruction to equip them satisfactorily for their duties. Reference was made to the facilities that had been provided in Great Britain for post-graduate work and a discussion took place in regard to the promise, specific or implied, that had been given medical officers abroad for similar facilities within the Commonwealth. Instances were quoted of medical officers returning to the Commonwealth after having allowed the opportunity in Great Britain to pass, because they had been assured that they would receive post-graduate training during six months of leave on full pay in the Commonwealth. Very little provision of this nature had been made. A certain number of returned medical officers had been appointed to resident positions in the large metropolitan hospitals. This, however, necessitated the exclusion of new graduates and was consequently regarded to be economically unsound in principle. Negotiations had taken place between the Department of Defence and the Department of Repatriation and the Branches of the British Medical Association. These negotiations, however, had not resulted in any satisfactory solution being found.

It was moved by Dr. F. S. Hone and seconded by Mr. G. A. Syme:—

> That the Federal Committee (*i.*) strongly urges upon the Departments of Defence and Repatriation the urgent necessity for affording facilities for post-graduate training for returned medical officers; (*ii.*) bring before the Department of Defence the apparent injustice already experienced by medical officers returning to Australia, who had been promised overseas that they would be given full pay while taking out post-graduate courses or while holding resident appointments in hospitals in Australia.

Mr. G. A. Syme raised the question whether there was not some misunderstanding concerning the alleged promise given to medical officers in Great Britain. Dr. W. T. Hayward mentioned a specific instance in which a medical officer had been definitely given to understand that if he elected to return to Australia, he would receive leave on full pay for six months for this purpose. Dr. R. H. J. Fetherston pointed out that all the privileges that had been accorded in Great Britain were subject to the exigencies of the service. In a few cases it had been found necessary to withdraw men from leave, to perform urgent military duties. The motion was put to the meeting and carried unanimously.

It was decided that the Chairman and Vice-Chairman should endeavour to interview the Ministers and to lay the views of the Committee before them.

Medical Treatment of Discharged Soldiers.

The Honorary Secretary reported that a letter had been addressed to the several Branches in connexion with medical attendance on returned soldiers on behalf of the Repatriation Department. The conditions governing attendance on returned soldiers had been set out in a document known as Circular "L," which the Department had issued.

Dr. R. H. Todd pointed out that the New South Wales Branch Council had considered this question very carefully and had suggested to its members to undertake the work on the terms offered but not to make permanent arrangements pending consideration by the Federal Committee. When they had first considered this matter, it was understood that the work would be done by civilian practitioners who had not been on active service. They were therefore prepared to accept somewhat lower fees than the usual fees, in view of the fact that the attendance was being rendered by men who had not been on active service and on that account would be prepared to make some sacrifice. It transpired, however, that the work was to be entrustetd to returned medical officers. It was felt by the New South Wales Branch Council that the fees tendered were in some respects insufficient. The Department was prepared to pay 10s. for the first consultation, treatment or examination carried out at the local medical officer's surgery, 5s. each for the next three consultations with treatment and 2s. 6d. per attendance for subsequent treatment. The Department was obviously anxious to safeguard itself against liability for payment for unnecessary attendance and had therefore introduced the system of tailing off of fees. The Branch Council, however, could not regard 2s. 6d. as a reasonable fee under any circumstances. They therefore proposed that the fees for treatment or examination when the patient visited the local medical officer's surgery, should be according to the following scale:—

First consultation, treatment or examination .. 10s.
Next four consultations, treatment, .. 7s. 6d. each.
Thereafter, treatment, ... 5s. each.

The Department offered 10s. each for the first two visits paid by the local medical officer to the patient in his home or elsewhere, 7s. 6d. each for the next four visits and 5s. each for subsequent visits. An allowance of 5s. per mile was granted for visits paid at a place over three miles from the doctor's surgery. The proposals of the New South Wales Branch were that the fees for the first two visits should be 10s. each and for each subsequent visit 7s. 6d. Mileage should be paid beyond two miles from the local medical officer's surgery at the rate of 5s. per mile in the daytime and 7s. 6d. per mile between the hours of 8 p.m. and 8 a.m.

Dr. Todd further pointed out that, according to the provisions of Circular "L," the term "first visit" meant the first visit paid to a particular individual and not the first visit in each separate illness. He considered that the full fees should be paid for the first visit or consultation in each separate illness.

Mr. C. A. Syme stated that he had been informed that the Department intended the "first visit" to mean the first visit in each illness. He pointed out, however, that the Department had provided medical attendance for illness or injury incurred on active service and that in the majority of cases there would be but one illness or injury for which attendance would be required.

Dr. J. Espie Dods held very strongly that it was not in the interests of returned soldiers that low fees should be paid. Low fees usually means hurried attendance, while a satisfactory attendance could only be guaranteed, if adequate fees were paid. He thought that the usual fee of 10s. 6d. should be paid for each visit. He pointed out that the sliding scale of fees would entail very complicated bookkeeping.

Mr. Syme recognized that some difficulty would be experienced, if the fees were made to correspond with the ordinary fees in private practice. The latter varied in different States.

It was pointed out that for pension work 15s. was paid for a visit at the patient's house and 10s. at the medical practitioner's surgery. The Commonwealth authorities had thus recognized the principle of paying uniform fees in all the States. On the other hand, it was stated that subsequent visits in pension work involved a careful revision of the first findings, whereas subsequent visits under the repatriation scheme did not necessitate in every case a complete re-examination. It was thought that after the military hospitals were closed, a very considerable amount of work of this character would be required.

Dr. R. H. Todd moved, and Dr. Hayward seconded:—

That the proposals of the New South Wales Branch for the amendment of the fees be approved and forwarded to the Department.

The motion was carried. It was also determined that the Department be asked to inform the Committee what was meant by the term "first visit."

The Relations of Medical Practitioners and Pharmacists.

In April, 1917, a conference was held between the representatives of the Victorian Branch and representatives of various pharmaceutical organizations in Victoria (see *The Medical Journal of Australia*, June 16, 1917, page 516 *et seq.*) As a result of this conference, a series of rules of practice had been drawn up. At the request of the South Australian Branch, these rules had been brought to the notice of the several Branches in Australia and had been considered by each.

Dr. Sandes pointed out that the New South Wales Branch had communicated with the pharmacists on the subject. His Branch had approved generally of the rules, with the exception of Number 13 (No. 10 of the original draft, as published in this *Journal*), which was to the following effect:—

That the right of counter-practice, so far as applies to the treatment of minor ailments, is recognized. The diagnosis of diseases by pharmacists should not be undertaken.

Dr. Sandes moved that the first sentence of this clause be deleted. Dr. J. Espie Dods seconded the motion. It was pointed out that the two component sentences of the clause were contradictory inasmuch as a minor ailment could not be treated until it was diagnosed. The motion was carried and the rules, as amended, were approved.

Australasian Medical Congress.

Dr. J. Lockhart Gibson moved *pro forma*:—

That congresses, hitherto Australasian Medical Congresses, shall in future be congresses of the British Medical Association.

He explained the circumstances in which a resolution was carried at the Congress in Auckland in 1914. Dr. James Young, of Wellington, had moved at the request of the New Zealand Branch of the British Medical Association:—

That membership of future congresses be limited to members of the British Medical Association.

Dr. Lockhart Gibson, relying on the ruling of the Chairman that the motion was in order, apart from all question of its validity, endeavoured to limit the disastrous consequences likely to accrue, were this motion carried. He had therefore moved as an amendment:—

That all future congresses be congresses of the British Medical Association.

The amendment had been carried, and he had put forward the motion on the agenda paper, at the request of the Council of his Branch. He, himself, would have preferred to have left the constitution of the congresses unaltered. He further explained that Dr. Taylor, as President of the Congress to be held in Brisbane in 1920, had addressed a letter to Dr. Hayward, Chairman of the Federal Committee, asking the Federal Committee to deal with the matter. Dr. J. Espie Dods seconded the motion.

Dr. R. H. Todd pointed out that the resolution carried by the Australasian Medical Congress purported to bind a body over which the Congress had no control. In these circumstances, the resolution was necessarily invalid. He therefore moved, as an amendment:—

That the motion is not within the scope of the Federal Committee as, in the opinion of the Federal Committee, the resolution passed by the Australasian Medical Congress at its Auckland meeting, 1914, namely: "that all future congresses be congresses of the British Medical Association," was invalid.

Mr. G. A. Syme seconded the amendment.

Dr. W. T. Hayward read a letter which he had received from Dr. Taylor, in which he sought the views of the Federal Committee, both concerning the date and place of the next meeting and also concerning the resolution referred to.

Mr. Syme held that Congress had not power to bind the

British Medical Association, but that the next meeting of Congress might be a combined meeting of the British Medical Association and of the Australasian Medical Congress. A full discussion ensued, in the course of which the opinion was expressed that the Federal Committee should hold its meeting at Brisbane at the same time as the meeting of the Congress was held. A suggestion was thrown out that the last week in August or the first week in September of 1920 would be convenient dates. The amendment, on being put to the meeting, was carried.

Re-Organization of the Military Medical Service.

Dr. J. Espie Dods moved, and Dr. F. S. Hone seconded the following proposal:—

> It being understood that a re-organization of the military services of the Commonwealth is about to be made, the Federal Committee desires before the proposals are adopted, that they may be consulted upon such matters that refer to the work of members of the medical profession in Australia, with the hope of securing the full co-operation of medical practitioners in any scheme devised.

The motion was carried.

Annual Address by the Chairman.

A discussion took place, dealing with the suggestion that the Chairman should deliver an address once a year, reviewing the chief matters of concern to the profession. While the members were of one accord that such an address would be beneficial and highly interesting, it was felt that the time at the disposal of the Committee was too limited at present to admit of any further encroachment. The proposal was therefore allowed to remain in abeyance.

Date and Place of Next Meeting.

On the motion of Dr. R. H. Todd, it was agreed that the next meeting of the Federal Committee should be held in Sydney in February, 1920, the exact date to be fixed by the Chairman.

Votes of Thanks.

A cordial vote of thanks was accorded to the Victorian Branch for having provided accommodation for the meetings of the Committee and for their hospitality and to the Board of Management of the Melbourne Hospital for having placed a room at the disposal of the Committee.

A vote of thanks was passed to Dr. J. H. L. Cumpston for having conducted the members of the Committee over the Federal Serum Institute.

A further vote of thanks was passed to Dr. W. T. Hayward for the able manner in which he had conducted the meeting.

A meeting of the Victorian Branch was held at the Medical Society Hall, East Melbourne, on August 6, 1919, Dr. J. Ramsay Webb, the President, in the chair.

The President extended, on behalf of the Council, a welcome to a number of members who had recently returned from active service. He expressed the wish that their homecoming and future welfare would fulfil all their anticipations and desires. He took the opportunity to bring the Medical Officers' Relief Fund to the notice of the members of the Branch. He enumerated the salient points which had been set out in the circular addressed by the Trustees to the members and he commended most earnestly the Fund to the sympathy and practical assistance of every member of the Branch. He urged that donations should be on as liberal a scale as possible. Whereas it had been said that some of the demands on the Fund were likely to be artificial, he could assure those present that this was not the case. The local committee, composed of the Honorary Secretary, Honorary Treasurer and himself, had actual knowledge of instances in which widows of their former colleagues had been left with very small incomes, so small, indeed, as to be quite inadequate to enable them to live in any degree of comfort and to educate their children in the manner the children's fathers would have planned for them. It was the privilege of the members and one which they should value highly, to help in the education of the sons and daughters of men of their own profession who had given their lives so nobly.

Dr. J. W. Dunbar Hooper, the Honorary Secretary, said he wished to place before the members of the Branch certain facts which all ought to know. Altogether, 38 members of the Victorian Branch had fallen. Up to the present time not one of their relatives had sought assistance and they had had to seek out cases in which there was a probability of help being needed. He therefore asked that members should inform the local committee of any cases that came to their knowledge. Many medical men who had died on active service had left relatives who were not in need of assistance, but the committee had knowledge of six cases in which the necessity for aid was immediate. Dr. Hooper referred to one particularly sad instance, in which a young medical officer who had been killed abroad, had been the sole support of his aged parents. He again urged the members to advise the local committee should they become aware of any similar conditions existing among the dependants of medical men who had been killed on active service. He stated that there were, undoubtedly, many claims on their resources at the present time, but none was more appealing than that of the Medical Officers' Relief Fund.

The President reminded the members that, should any difficulty be experienced in making a cash donation, war bonds constituted a form of subscription that would be quite acceptable to the Trustees.

Dr. Rupert Downes, C.M.G., voiced the thanks of the returned medical officers for the kindly greeting accorded them by the President and the members of the Branch.

The undermentioned has been nominated for election as a member of the New South Wales Branch:—

Reginald Harold Bridge, Esq., M.B., Ch.M. (1912, Univ. Sydney), "Beanbah," 235 Macquarie Street, Sydney.

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

The Trustees acknowledge, with thanks, the receipt of the following donations and promises towards the above-named Fund:—

New South Wales.

	£	s.	d.
Dr. R. L. Faithfull	100	0	0
Dr. R. Worrall	100	0	0
Dr. F. Barrington	100	0	0
Dr. R. Gordon Craig	100	0	0
Sir Alexander MacCormick	100	0	0
Sir Herbert Maitland	100	0	0
Dr. F. P. Sandes	100	0	0
Dr. G. Armstrong	100	0	0
Anonymous	50	0	0
Dr. W. H. Crago	50	0	0
Dr. A. H. Macintosh	50	0	0
Dr. H. C. McDouall	40	0	0
Dr. A. G. H. Colquhoun	40	0	0
Dr. A. J. Hood	31	10	0
Dr. J. A. J. Murray	30	0	0
Dr. Cyril Shepherd	30	0	0
Dr. H. G. Holmes	30	0	0
Dr. J. Hoets	30	0	0
Dr. H. Clatworthy	30	0	0
Dr. H. S. Fordyce	30	0	0
Dr. J. Foreman	26	5	0
Dr. W. Hull	25	0	0
Dr. W. Daish	21	0	0
Dr. R. H. Hill	21	0	0
Dr. J. English	21	0	0
Dr. A. Muscio	21	0	0
Dr. A. B. Nairn	21	0	0
Professor Wilson	21	0	0
Dr. P. L. Broadbent	21	0	0
Dr. F. H. Wrigley	20	0	0
Dr. J. A. Watt	20	0	0
Dr. C. A. Verco	20	0	0
Dr. W. Mawson	20	0	0
Dr. A. E. Harker	20	0	0
Dr. P. S. Jones	20	0	0
Dr. W. Blaxland	20	0	0
Dr. R. Scot Skirving	20	0	0
Dr. F. W. West	20	0	0
Dr. E. L. Parry	20	0	0
Dr. R. W. McCredie	20	0	0
Dr. S. W. Morton	15	15	0
Dr. St. J. W. Dansey	15	15	0
Dr. S. J. Woolnough	15	0	0

	£	s.	d.
Dr. A. G. Johnston	15	0	0
Dr. F. M. Suckling	10	10	0
Dr. F. A. Bennet	10	10	0
Dr. W. M. Helsham	10	10	0
Dr. J. MacBain Ross	10	0	0
Dr. R. O. Williams	10	0	0
Dr. E. S. Littlejohn	10	0	0
Dr. R. C. Winn	10	0	0
Drs. Kelly and Barton	9	0	0
Dr. W. K. Dale	9	0	0
Dr. G. Hurst	6	6	0
Dr. B. Middleton	5	5	0
Dr. W. M. A. Fletcher	5	5	0
Dr. J. B. Cleland	5	5	0
Dr. F. C. B. Hittmann	3	3	0
Dr. W. B. Clipsham	2	2	0
Dr. H. W. Cuthbert	2	2	0
Victoria.			
Dr. Dunbar Hooper	150	0	0
Dr. W. R. Groves	100	0	0
Dr. E. Alan Mackay	100	0	0
Dr. C. H. Mollison	75	0	0
Dr. R. Hamilton Russell	50	0	0
Dr. F. A. Newman	30	0	0
Dr. Clara Stone	25	0	0
Dr. J. Pollock	20	0	0
Dr. L. J. Clendinnen	20	0	0
Dr. C. W. Greene	15	0	0
Dr. J. Kerr	12	0	0
Dr. W. F. Miller	10	10	0
Dr. H. D. Downing	6	0	0
Dr. Charles Smith	5	5	0
Dr. F. J. Newman	5	5	0
Dr. J. G. Desailly	5	0	0
Dr. J. De B. Griffith	1	1	0
Dr. M. Crivelli	1	1	0

Total received to August 12, 1919, £2,471 5s.

Naval and Military.

HONOURS.

The following awards have been granted on the occasion of His Majesty the King's birthday:—

Distinguished Service Order.

Lieutenant-Colonel Hugh Bennett Lewers, O.B.E., 11th Field Ambulance.
Lieutenant-Colonel Gerald Eugene Macdonald Stuart, 3rd Light Field Horse Ambulance.
Lieutenant-Colonel Clive Wentworth Thompson, M.C., 14th Field Ambulance.
Lieutenant-Colonel Frank Couper Wooster, 13th Field Ambulance.
Major Marcus Vicars Southey, 1st Field Ambulance.

Military Cross.

Captain David Henry Bodycomb, 1st Field Ambulance.
Captain Robert Burnside Carter, R.A.M.C..
Captain Archie Sheridan Cockburn, attached 6th Battalion.

Commander of the Order of the British Empire.

Lieutenant-Colonel and Brevet-Colonel William L'Estrange Eames, C.B., R.A.M.C..
Lieutenant-Colonel David Gifford Croll, 2nd Field Ambulance.

Officer of the Order of the British Empire.

Colonel Walter Ernest Summons.
Lieutenant-Colonel Charles Edgar Dennis.
Lieutenant-Colonel Piero Fiaschi.
Lieutenant-Colonel William Love Kirkwood.
Lieutenant-Colonel Valentine Osborne Stacy.
Major (Temporary Lieutenant-Colonel) Lewis Wibmer Jeffries, D.S.O..
Major Arthur Madgwick Davidson.
Major Norman Maxwell Gibson.
Major Frederick Donald Herbert Blois Lawton.
Major John Macdonald.
Captain (Temporary Major) John William Ferrar.
Captain George Bell.

We learn from the *British Medical Journal* of June 7, 1919, that Major-General Sir Neville Howse, V.C., K.C.B., Director-General Medical Services, Australian Imperial Force, has been appointed a Knight of Grace in the Order of the Hospital of St. John of Jerusalem. The same honour has been conferred on Major-General Sir Robert Jones, C.B., Director of Orthopædics of the Imperial Forces.

It has been announced that Dr. George Armstrong has resigned his membership of the Vocational Committee for the State of New South Wales, under the *Australian Soldiers' Repatriation Act, 1917-1918*. The vacancy created by his resignation has been filled by the appointment of Mr. Alfred Edward Hibble.

PNEUMONIC INFLUENZA.

In the *New South Wales Government Gazette* of August 6, 1919, a proclamation is published, cancelling the restrictions imposed on persons in the municipality of Cooma. Two days later a further proclamation was published, revoking the proclamation of December 5, 1918, declaring pneumonic influenza to be an infectious disease within the meaning and for the purposes of the *Public Health Act, 1902*.

The Commissioner of Public Health of Queensland ordered the repeal of previously imposed restrictions applying to the city of Charters Towers, the town of Beaudesert and the Shires of Allora, Auburn, Chinchilla, Dalrymple, Esk, Fitzroy, Glengallen, Inglewood, Kingaroy, Miriam Vale, Murgon, Murilla, Nanango, Proserpine and Wyangarie. On July 31, 1919, the usual restrictions were prescribed for the areas of the towns of Bowen and Cairns and the Shires of Barron, Cairns, Hinchinbrook, Nebo and Rosalie. On August 5, 1919, the same restrictions were applied to the township of Lowood. A fresh set of influenza regulations, bearing the date of May 21, 1919, have been published in the *Queensland Government Gazette* of July 31, 1919. These regulations differ only from those previously issued (see *The Medical Journal of Australia*, May 24, 1919, page 431) by the inclusion of greater detail concerning the manner in which the chief provisions can be enforced.

Obituary.

ARTHUR COLIN MACKENZIE.

It is with regret that we have to announce the death of Dr. Arthur Colin Mackenzie, which took place on July 22, 1919.

Arthur Colin Mackenzie was the seventh son of the late John Robertson Mackenzie, a Doctor of Divinity of Birmingham, England. He was born in 1860. He received his education at Cheltenham College and studied medicine at the Edinburgh University and the London Hospital. In 1886 he took the diplomas of the Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh and of the Licentiate of the Faculty of Physicians and Surgeons of Glasgow. Four years later he came to Australia and, after passing a short time in the western districts of Queensland, he entered private practice. At first he was at North Rockhampton, but later he moved to Mount Morgan, where he remained until his death. He was appointed Government Medical Officer for the district and Medical Officer of Health to the Municipality of Mount Morgan and to the Banana Shire Council. He also acted as part-time Medical Inspector of Schools under the Department of Public Instruction. In the early years of his practice he was an active Freemason. He served as Pastmaster at the Lodge Mount Morgan S.C. and Past First Principal at the Mount Morgan Royal Arch Chapter. He attained his eighteenth degree in Freemasonry. The sympathy of his colleagues, patients and friends is extended to his widow, two sons and three daughters in their bereavement.

Correspondence.

BISMUTH-IODOFORM-PARAFFIN PASTE.

Sir,—Would you kindly give me the official formula for "B.I.P.P."? It is a word constantly cropping up in surgical literature, but the writers rarely give the quantities of the constituent parts and when they do they vary.

Yours, etc.,

"BIP."

July 14, 1919.

The formula for the paste is:—

Iodoform	2 grammes
Bismuth subnitrate	1 gramme
Paraffin	1 gramme

Medical Appointments.

Dr. C. H. Leedman (B.M.A.) has been appointed District Medical Officer at Westonia and Visiting Medical Officer at Southern Cross, Western Australia.

Dr. N. E. Kirkwood (B.M.A.), Government Medical Officer at Port Kembla, and Dr. Hugh Rayson (B.M.A.), Government Medical Officer at Manilla, New South Wales, have been authorized by the Board of Health as Inspectors, under Section 50 of the *Cattle Slaughtering and Diseased Animals and Meat Act, 1902.*

The appointment of Dr. S. Joel (B.M.A.) as Medical Officer of Health to the Dardanup District Road Board of Western Australia has been approved.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xvii.

University of Adelaide: Professor of Pathology.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society..
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Aug. 19.—Tas. Branch, B.M.A., Branch and Council.
Aug. 19.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Aug. 19.—Illawarra Suburbs Med. Assoc..
Aug. 20.—W. Aust. Branch, B.M.A., Branch and Council.
Aug. 21.—City Medical Assoc. (N.S.W.).
Aug. 22.—Q. Branch, B.M.A., Council.
Aug. 26.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Aug. 27.—Vic. Branch, B.M.A., Council.
Aug. 28.—S. Aust. Branch, B.M.A..
Aug. 29.—N.S.W. Branch, B.M.A..
Sept. 2.—Tas. Branch, B.M.A., Branch and Council.
Sept. 3.—Vic. Branch, B.M.A..
Sept. 9.—N.S.W. Branch, B.M.A., Ethics Committee.
Sept. 11.—Vic. Branch, B.M.A., Council.
Sept. 11.—Last Day for Nomination of Candidates Representing N.S.W. Branch for Election to the Federal Committee.
Sept. 12.—N.S.W. Branch, B.M.A., Clinical.
Sept. 12.—S. Aust. Branch, B.M.A., Council.
Sept. 12.—Q. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney.